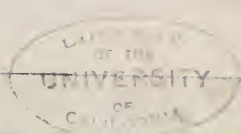


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

GIFT
SEP 7 1915



Gleanings in Bee Culture



Southern Headquarters for Italian Queens



Photo of W. D. Achord of Fitzpatrick, Ala., with helpers, also his queen-rearing yard. Queen-house and residence in background. With six experienced men, and 600 mating-boxes, also 700 full colonies of pure Italian bees, we are able to give good queens and prompt service. Untested queens, 1 to 11, 50 cts. each; 12 and more, 45 cts. each. Tested, \$1.00 each. No disease. Pure mating and safe delivery I guarantee.

W. D. ACHORD, Fitzpatrick, Alabama

Meet Me at the **TULLER**!

For Value, Service,
Home
Comforts



New Hotel TULLER, Detroit, Michigan

Center of business on Grand Circus Park. Take Woodward car, get off at Adams Ave.

200 Rooms, Private Bath, \$1.50 Single; \$2.50 up Double
200 Rooms, Private Bath, \$2.00 single; \$3.00 up Double
100 Rooms, Private Bath, \$2.50 single; \$4.00 up Double
100 Rooms, Private Bath, \$3 to \$5 single; \$4.50 up Double

TOTAL 600 OUTSIDE ROOMS. Absolutely FIREPROOF. ALL ABSOLUTELY QUIET.

Two Floors—Agents' Sample Rooms. New Unique Cafes and Cabaret Excellente....

Gleanings in Bee Culture

Published by The A. I. Root Co., Medina, Ohio

A. I. ROOT, Editor Home Department
H. H. ROOT, Managing Editor

E. R. ROOT, Editor

J. T. CALVERT, Business Manager.

A. L. BOYDEN, Advertising Manager

Entered at the Postoffice, Medina, Ohio, as second-class matter.

VOL. XLIII.

SEPTEMBER 1, 1915

NO. 17

EDITORIALS

THE cover picture for this number illustrates the apiary of G. W. Barge, of Union Center, Wis.

More than Enough Honey to Pay the Freight on Carloads of Bees from the South

OUR Virginia and Texas carloads of bees gathered more than enough honey to pay the freight and other expenses on them up here, but not enough to pay the entire cost of them. About July 1 it looked as if we would have to feed the 600 colonies; but the hives are full, and some colonies are four and five stories high. After all, we do not think much of the proposition of moving bees two or three thousand miles in carlots. The railroads are exacting too big a toll to make it pay. It is much cheaper to "make" bees out of cheap honey or sugar syrup right at one's own home, and at the same time avoid the great risks of extremely hot weather or wrecks. The "made" bees will be any strain desired—not the mixed bloods that one finds when he goes after them. We solicit articles from those who have made colonies by feeding sugar syrup, or cheap honey for increase.

Automobiles — 75 per cent of Them in the Hands of Farmers

OUR old friend the *Practical Farmer*, which, a few years ago, was opposed to the use of automobiles on the common highways, must have modified its opinion somewhat; at all events, it is authority for the statement that 72 per cent of the machines in use are owned by farmers. Farmers would, of course, have to use the common highways. Our esteemed contemporary (one of the best papers in all the world) must, therefore, approve of farmers purchasing machines and using the same roads used by horse-drawn vehicles. What is good for the farmer is good for the beekeeper.

Automobiles' are wonderful time-savers; and when one buys a moderate-priced ma-

chine the upkeep and depreciation are not nearly as great as is the case with a horse and wagon, and the cost per mile only half as much, and, moreover, the machine has nearly ten times the range.

Drone-laying Queen Brood Sometimes a Stinking Mess

A COUPLE of months ago we had a scare at our home yard. We found several frames of brood that were a stinking mess. The capped cells had the characteristic perforated capping; and while the dead matter did not rope it seemed to be a case either of European foul brood or sac brood. The possibility of the former gave us a great deal of uneasiness until we learned it was drone brood. Our Mr. Mell Pritchard in charge of our queen-rearing then recalled that we had had a number of cases of this kind in past years from drone-laying queens. We sent a sample of the brood, to make sure, to Dr. E. F. Phillips, of the Department of Agriculture, for examination. The report came back, "No disease." We merely mention this that others may be advised who find laying-worker brood; and if it occurs in considerable quantity during late June or July, much of it may be dead or stinking.

Honey-crop Conditions and Prices

IN most and practically all localities the clover yield is over. The flow, more or less intermittent in most of the clover belt, continued up to the 15th of August; in other words, clover has continued to yield nectar at least a month later than usual. Apparently the aggregate yield this year of clover and some basswood is very much heavier than a year ago, and prices will run from 15 to 25 per cent lower, depending on the grade. There probably is not much more comb honey produced this year than last. While a year ago there was a larger percentage of comb to the extracted, this year the reverse is true. The intermittent yield of nectar, interspersed with cold rainy wet weather was very unfavorable for the pro-

duction of comb; and the result was, the aggregate yield is very much lighter than it would have been, but about the same as last year. Taking it all in all, comb honey will rule about the same as a year ago.

The Californians estimate that their crop will be 40 per cent normal. Last year it was about 50 per cent; but a large amount of California honey was held over. Last year's crop and this year's crop combined has tended to reduce the price of California honey anywhere from 15 to 25 per cent. The lower grades of amber are selling very slowly. Before the great war, large quantities of amber went to the European markets. This outlet has been shut off for over a year. Undoubtedly a large part of this has found its way into the manufacturing trade because it is cheaper than invert sugar, and is always better, because it has flavor.

In Imperial Valley, according to J. W. George, one of the largest producers there, the crop has been the poorest of any year since bees were introduced there. It will not run over 40 lbs. per colony.

The Colorado crop will be light, especially in the eastern part. In other portions of the alfalfa regions the yield will be nearly normal.

Taking it all in all, prices on all grades of honey will be lower this year than last, except comb honey, which will be about the same as last year.

Cost of Operating Built-over Automobiles, Touring-cars, and Trucks

A CERTAIN man once went to the editor of a newspaper, complaining that said editor had made the announcement that the complainant was dead. "Sir," said he, "I will have you to understand that I am not dead. I am very much alive."

The editor replied, "A newspaper never makes any mistakes, and therefore never retracts. If we said you were dead you were dead; but if you have come to life again we shall be glad to publish the fact, but that is all we can or will do."

Whatever may be newspaper policy or etiquette, GLEANINGS does not believe in that policy. While we have not made any statement to the effect that somebody was dead, we do know that some things ought to be dead. On page 609 of our issue for August 1 we stated that one could become the owner of an automobile truck that would cost him but a small sum of money by putting a truck body on a second-hand touring-car. Sometimes that may be true, and sometimes it isn't.

It is said that an open confession is good for the soul. It may be good for other people who may be inclined to follow the editor's well-meant but bad advice. Well, we found that the repairs on this second-hand auto, if continued at the present rate, would make the machine cost nearly as much as a first-class new automobile truck or a first-class new touring-car.

In buying a second-hand machine it is not always possible for one to know how much repairs will be required in the near future to keep the thing going, how much time there will be lost on the road, and cost of breakdowns. Some second-hand automobiles are dear at any price, while others are good bargains. Much will depend on the party who owned or operated them while they were passing from the new to the second-hand stage. At all events, our rebuilt auto "auto" be dead because it is costing us altogether too much to maintain, and we are beginning to fear that it would be cheaper for us to make it real dead with a sledge-hammer* and sell the junk to the dealer. A half-dead auto is a nuisance.

Wilmon Newell of Texas Accepts a State Position in Florida

WILMON NEWELL, who has been doing such good work as state entomologist and apiculturist at College Station, Texas, has resigned to accept the position of state plant commissioner of Florida. He is one of the best bee entomologists in the whole United States. Any state that can get him is fortunate. He will make good anywhere. His successor has not yet been decided on.

Mr. Newell took an active interest in beekeeping in Texas. He issued a number of bulletins on various matters connected with the industry that had more than ordinary merit. He kept a large number of bees himself, and this season sold to the A. I. Root Co. a carload of bees. He therefore knows the practical as well as the scientific side of the bee question. What will be a loss for Texas will be Florida's gain; but, unfortunately for American apiculture, Mr. Newell probably will not be in position where he can do as much with bees and beekeeping as he formerly did. He will, however, have a wide field in studying a large number of plants and trees that yield honey in the state where he is going. It is to be hoped he will not wholly lose his interest in things apicultural, for the beekeepers of the country would be sorry to lose his valuable help in research work. His work was

* Some autos ought to be dead, that's sure.

so good that Uncle Sam, as we happen to know, came very near at one time making a bid for his services.

=====

Our Sweet-clover Cover in Last Issue

WE failed to state editorially in our issue for August 15 that the cover picture for that issue was made from a small vest-pocket kodak, 0 size, by Miss Mary Porter, daughter of Mr. W. L. Porter, formerly of Denver, but now of Caldwell, Idaho. Miss Porter, a schoolteacher and an ardent beekeeper herself, was in attendance at the National convention of beekeepers last winter. She showed us the picture she had taken of a very rank growth of sweet clover along one of the irrigating ditches of Idaho, and wondered what kind of a cover picture it would make. It seems that at the time it was taken she was standing on the bridge, for the railing shows in the foreground.

The growth of sweet clover is sometimes enormous, but it is seen at its best along some of the irrigating-ditches of the West. The picture is a fair sample.

By the way, we would not dare to show Miss Porter's picture for fear some half a dozen young men would write her proposing marriage. We have in times past shown the faces of a number of single good-looking young women beekeepers. In several instances they have been surprised, amused, or shocked by several proposals of marriage. So far as we know these pretentious youths have been turned down flat or ignored.

=====

The Great War and the Wet Season

EVERY now and then we hear statements to the effect that the great war is responsible for the almost continuous rains this season; and even a prominent lecturer on our Chautauqua course went so far as to state that the "scientists" of the country "agreed" that the heavy cannonading in Europe was responsible for the large amount of precipitation this year. The facts are, the "scientists" of the country do not hold that view. The United States Weather Bureau has repeatedly said there is no relation between heavy explosions and rainfall. Some years ago France wasted thousands upon thousands of dollars in experiments to test out this very thing. Similar tests were made in Texas, but results were always negative.

The claim that rains have followed great battles is not always true; and when rains have happened it has been simply a coincidence. If the great war is responsible for

the floods and rains in many localities in the northern parts of the United States *this year*, why did not that same great war do the same *last summer*? Why did it not make it rain in Texas and Florida this year? On the contrary, there was a long drouth in both places.

There have been seasons of almost continuous rains before without wars big or little anywhere. This talk about "scientists agreeing" that severe concussions induced by cannonading bring on precipitation is nonsense. It is true we can lay a great many things to the war, but it is not responsible for everything.

=====

Those Large Quadruple Winter Cases or Tenement Hives; Have They Made Good?

WE should be glad to get reports from those who have tried out the large winter cases that hold four colonies on the tenement plan. Some call them Holtermann winter cases; others the quadruple winter case, and still others tenement hives. As a matter of fact, Mr. Holtermann did not invent the case bearing his name, and does not claim that he did; but he does use a simple construction, one of the best, and hence the name. There are other cases built on the same principle, one used by Mr. A. C. Ames, of Peninsula, Ohio.

Whatever the modification, the principle is much the same—using four colonies (back and sides together) to utilize the heat of each cluster, leaving only one side and one end and the top of the hive to be protected by packing and the outside case. For cold climates, and for excessively cold winters in milder climates the quadruple winter case has so far scored exceedingly well. But it is no cheaper than a double-walled packed hive. The amount of lumber that these cases require is just as much, and the labor of packing and unpacking in the fall and spring is vastly more. On the other hand it is argued that, if bees do winter better on the tenement plan, we can afford to pay more, both in labor and material.

Who invented those big tenement cases? We do not know, and it is not important; but our readers will find the tenement chaff hive described in the early volumes of GLEANINGS and illustrated in the frontispiece in early editions of our A B C and X Y Z of Bee Culture, in the early '80's. We used one for several years, and invariably it gave us good results. In the early days the veteran, E. France, used it, and later his son, Mr. N. E. France, for many

years foul-brood inspector of Wisconsin, and still later his sons have been using the principle.

Why, then, was the principle dropped by so many beekeepers and retained by so few? We do not know, unless it was that these big hives were heavy and unwieldy, because they involved extra labor in packing, and because they were not portable. The modern tenement is made in sections. It can be taken down and moved at any time.

Is the Advice to Put Comb Honey in a Refrigerator Always Wrong? A Challenge from Dr. Miller

For years the recommendation has gone out without a challenge, to store honey in a warm dry room—never in a cellar nor in a refrigerator. Any sane beekeeper who would challenge that statement has nerve. In a recent letter Dr. Miller refers to pages 659, 670, and 682 of our last issue. Then he says, "I want to ask you to put some honey in a refrigerator and then report whether it gets wetter or dryer." While he does not say in so many words what his experience is, the inference is that it does not get wetter, and that its quality improves, because cold honey becomes thick and waxy rather than thin, warm, and tasteless.

In some cellars and in some refrigerators the air is almost dry. In others the reverse is true. Moreover, no matter how dry either may be, the tendency to granulate is hastened materially. While that does no harm particularly for extracted, yet every time the granulated article is reliquefied some of the flavor is lost. Granulated comb honey no one wants except the Jews, who use it at certain seasons in their religious festivals in a preparation that makes use of both honey and wax. In any market granulated comb honey has lost a third of its value, and very often it will not sell at even the price of extracted.

We would agree with Dr. Miller's implied statement that both comb and extracted comb honey are improved if they are put into a refrigerator for a few hours before going to the table. They are improved in that they become thick and waxy. There is nothing finer to eat than a good grade of table extracted honey that has been placed in a window in hard freezing weather for a few hours before it goes on to the table. It becomes so thick and stiff it is almost impossible to dip it up with a spoon. If ever there was a food "fit for the gods" it is cold honey.

Thank you, Dr. Miller, for bringing this point up. Of course you and all others would agree that the advice to keep either comb or extracted honey in a dry warm place of even temperature for *storage* purposes is entirely correct.

Crop Reports in Ontario, Canada

The Ontario Beekeepers' Association of Canada is to be congratulated on the excellent work it is doing in securing crop reports from its members. (See the summary in last issue.) The credit for this work is largely due to Mr. Pettit, the secretary. The association is doing more thorough and better work than is being done in any portion of the United States or elsewhere in Canada. In the last report received, dated August 5, 1917, 107 colonies were reported, comprising a large area of the province. From this number of colonies there was secured up to that date 1,053,328 lbs., making an average per colony of 55.1 lbs. In going down the list, some counties report as high as 100 lbs. each per colony. And then we find 93, 107, 85, 78, 77, then down as low as 14, 15, and 19 lbs. per colony, making an average of 55.1 as stated. If Ontario has had as much rain as Michigan, New York, and Wisconsin, and the Government maps show that it has had nearly as much, it will doubtless still have a great deal of clover in bloom. The presumption is that all these averages per colony, as well as the general average, will go even higher.

If we had had as thorough work done as this in every state in the Union, we should be able to know by the first of August, at least, the amount of honey in sight, and the price it would bring to move the crop.

THE EFFECT OF THE GREAT WAR ON THE PRICE OF HONEY.

The prediction is made for Ontario that, while the crop is average and the "quality excellent," the "buying power of the public is below the average." This is doubtless due to the great war, which probably will produce a little more depression in Canada than in the United States. But the war certainly has affected the buying power of the people on *this* side of the line, and this, of course, will have a tendency to depress prices on food products that are not staple like meat, butter, milk, and the grains. Honey, while a concentrated food, is still regarded more in the line of a luxury than a staple. The public is inclined to regard as a luxury any non-essential when times

are hard. The facts are, honey, for the money, stands at the very top of the list of foods as an energy-producer.

Can Good Queens be Raised and Sold for Fifty Cents?

WE have received a number of letters endorsing our editorial on p. 573, July 15, entitled "Complaints against certain Dealers; when Patience Ceases to be a Virtue." Among the number is Kenneth Hawkins, of Plainfield, Ill. He writes:

"I wish to speak a word in approbation of your stand. Any advertiser who will not give an iron-clad guarantee, and stand by it until his patrons are satisfied, does not deserve any business from beekeepers."

Again, on this subject, Mr. J. Ivan Banks, of Dowlstown, Tenn., who, to use the parlance of the day, has been "stung" by some queen-breeders, writes:

I read with interest Mr. Doolittle's article on rearing good queens, page 573, July 15; also your editorial, page 608, current issue—"Complaints against Certain Advertisers; when Patience Ceases to be a Virtue," and now wish to ask the question, Can good queens be reared at a profit at 50 cts. and even less? According to my experience they can not. I find that at \$7.00 per dozen there is very little profit in queen-rearing. I think if breeders would ask a fair price for queens, and then aim to rear better queens, there would be fewer complaints.

Dowlstown, Tenn., Aug. 9. J. IVAN BANKS.

In answer to Mr. Banks' question, we may say that the demand for queens comes and goes. Sometimes the breeder may have more orders than he can handle promptly. At other times he may have a big stock. If he has his work systematized, weather conditions not being too unfavorable, he will be having a certain weekly output of queens. There will be times when he will have one or two hundred on hand. In order to make room for his virgins still coming on he can afford at such times to sell fifty or a hundred laying queens in the hives at a very low price. He had better get 50 cents a queen, perhaps, than to lose his virgins and, worse yet, throw his queen-rearing operations all out of gear. In times like this he can afford to sell queens at a low price in order to reduce his stock; but as a regular proposition, week in and week out, he cannot afford to sell them at 50 cents apiece, pay the cost of advertising, the cost of labor, the cost of select breeders, cost of feeding sugar syrup, cost of replacing queens that arrive dead, time in answering correspondents, and cost of bad weather when his matings will be low, or heavy windstorms when sometimes he will lose a half or two-thirds of all his good drones. It costs something to turn out a first-class

product; and as a general thing the price of a good laying queen from a good breeder will circle around a dollar, the price varying according to the season and the supply on hand.

We agree with our friend Banks that it will be far better to put the price up, and with it the quality, rather than to put it down and sell any old thing in order to take care of the trade. There are some queen-breeders who, we are told, make it a regular practice to take cells of *any kind* from *any* colony, and sell such product to their customers. Such people usually furnish queens at low prices, and the quality is correspondingly low as a result.

Cost of Letting Colonies Get near the Verge of Starvation; the Value of Young Queens in the Fall

MR. J. L. BYER in his department in this issue says very truly that when a colony has got down to just a few cells of honey it will be almost sure to destroy a great deal of young brood by eating up the larval food. Instinct teaches that it will be folly to raise more consumers, and therefore natural prudence would suggest a saving in the living force through rigid economy until the time comes for honey to come in.

But the real point of Mr. Byer's caution is not that young brood is destroyed, but rather that the *beekeeper himself* should not let the bees get to the danger-point. It is exceedingly wasteful to let unsealed brood die for want of food. If a colony is to winter well it must have a large stock of *young* bees to go into winter quarters. To stop brood-rearing now by carelessness is inexcusable.

But this naturally brings up the question that, during August and September in the North, brood-rearing (under ordinary conditions) will automatically cease, even though there are plenty of stores in the hive. If the queen is a year or two old she will let up in her egg-laying soon after the harvest, and may not commence again until a late flow of fall asters causes another flow. It may then be too late to get much of a stock of young bees.

It is right here that a *young* queen is far more profitable than an old one. Given sufficient stores, a young queen will keep right on laying through summer and until late in the fall, and she will stock that hive up with young blood that can stand the rigors of winter. An old queen that has exhausted herself in the early part of the season will usually stop laying when the main hon-

ey-flow ceases, whether the hive has plenty of honey or not. Sometimes the introduction of a young queen in late summer or fall means the saving of a whole colony of bees by next spring; and even if an old queen with her colony survives, the colony may be so weak that it will not be able to do very much by the time the harvest comes on.

The Genesis of Honey Extractors and Extracted Honey in the United States; Extracted Honey at 25 Cents a Pound

IN this issue, pages 719, 720, is shown a picture of an old honey-extractor made by Captain Sanders as far back as 1875, or forty years ago. This machine is placed on exhibition at the A. I. Root Company's exhibit at the San Diego exposition. Captain Sanders knew nothing of A. I. Root's first honey-extractor, built in 1867; and yet, strangely enough, the machines are alike in principle, with precisely the same gearing.

Seeing that machine at San Diego brought up early memories. Well do we remember A. I. Root's original machine. It consisted of a milk-can that was stationary, with inside revolving reel and baskets to hold the combs. The reel was geared to a part of an old apple-paring machine mounted on a wooden cross-arm. This outfit was the forerunner of the Novice honey-extractor brought out in 1873, for A. I. Root did not begin to manufacture and sell supplies until some time after he built his honey-extractor and made his first hive.

Before A. I. Root put his geared machine in a stationary can on the market Mr. J. L. Peabody brought out the first extractor that was ever made and sold. This was in 1869. Later Gray and Winder and R. R. Murphy brought out their machines. The Peabody consisted of a revolving can without gearing. Referring to this, Mr. J. L. Peabody, the inventor, who was at the National convention at Denver last winter, was generous enough to say that Bro. A. I. Root's *geared machine with a stationary can* was so much superior to his that he took it off the market.

It was this old original machine that A. I. Root built that took his first thousand pounds of extracted honey. It so fired up his enthusiasm that he turned his attention more and more to bees, and less and less to his jewelry business, for at that time he made silver chains and rings, and other specialties of silver. The first mention of this original all-metal geared honey-extractor is found in the *American Bee Journal*

for 1868, page 4. The honey taken by this machine sold at 25 cts. a pound; and even at that figure he could not supply the demand, and had calls for more. Later on, his crops were so large that he talked about building cisterns of brick and mortar to hold his honey; for several times he had more honey than all the wash-boilers, pails, and cans that he could borrow of the neighbors would hold; and all that honey was taken with that old original machine built in 1867. It embodied all the principles of the honey-extractor of to-day except that the pockets holding the combs were not reversible. The machine built by Captain Sanders, illustrated and described in this issue, page 720, was very much like it, but in principle only.

Well does the writer remember helping to extract in those early days. It was our job to keep robbers out of the honey-house by batting them down as they came in at the doorway; for every member of the family was put at work. Later, as we got to be older, we helped turn the crank. That was more fun than batting bees.

What an amount of honey we could get now if we only had the basswoods we had in those days! Fifty colonies of bees, and unlimited basswoods in the woods! for at that time no one considered that kind of lumber of any value, and every tree was standing. Our locality was not overstocked, and no wonder A. I. Root was able to get honey by the wash-boilerful, and no wonder that he was enthusiastic. As stated, this honey brought 25 cents a pound. As the scales showed that some of his hives were actually bringing over a dollar a day, it is not surprising that he should think of giving up his business up town. From some of his best colonies he took off \$50 worth of honey,* or an average of \$32.00 per colony from his 48. This exceeded even the tales in the *Arabian Nights*, and A. I. Root was wild with delight. His friends and neighbors when he first took up with bees had been saying that he was foolish to neglect his business and fool with bees, for they said "bees don't pay any more." But when he proved that they did, inquiries began to come in from far and wide, for he wrote up his successes and failures in the old *American Bee Journal* in the late '60's and early '70's. So numerous were the inquiries that he was compelled to get out a bee-journal, a bee-book, and sell supplies. A. I. Root's exploits in taking extracted honey gave a great boost to bee culture in the United States, second only to the invention of the movable frame by Langstroth.

* See *American Bee Journal*, page 64, for 1868.

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.



By way of emphasizing what is said about bees working on same kind of flowers, p. 611, it may be added that some varieties of fruit-trees are sterile to their own pollen, and, unless insects carry pollen to them from other varieties, they will remain barren.

CONDITIONS named by J. L. Byer, p. 617, are much the same as they have been here, but results opposite. Wet weather caused the loss of field bees with him; but here it seems merely to have kept them at home, saving their strength and lengthening their lives; and colonies never have been stronger.

MR. EDITOR, you have struck the nail on the head exactly when you say, p. 613, that the trouble about getting rid of the saloon has been "that the great majority of the voters would not desert their old party." As you say, a big movement is on, and whenever Christian men decide to put principle before old-party ties, and get together in one party, the speed of that movement will be quadrupled. [Exactly. But if the great majority *do not* desert their parties we are compelled in the mean time to do the best we can with the kind of voters we have.—Ed.]

P. C. CHADWICK, p. 571, reports a queen filling five combs with eggs in five days, and says, "That is performance enough for me." Not for me, P. C. I have a queen in No. 81, perhaps the best layer I have; hive overflowing with yellow bees; but she's marked for decapitation because her bees don't reliver the goods. The measure of a queen's value is not the number of eggs she lays, but the pounds of honey her workers store. [More than once we have had instances in our locality showing that the extra-yellow bees are not the ones that gather the honey. Our neighbor, Mr. Vernon Burt, said to us a couple of years ago that he had some bees that were golden almost to the tip, "but," said he, "while they are beautiful to look at, they are absolutely worthless for honey-gathering, and I am going to pinch the queen's head."—Ed.]

A SISTER beekeeper wants to know about placing hives in pairs. Advantages: Doubling the number on the same ground. The bees know right from left, and bees from the right-hand hive never enter the left-hand hive. If they go wrong it will be to enter the right-hand hive of the next pair. If two rows are placed back to back there is still

greater economy of ground room. When working at a hive it is a convenience to have the top of the adjoining hive as a platform. Disadvantage: Once in a great while some of the bees of a returning swarm will enter the wrong hive. [We have been working the scheme of putting hives in pairs at our outyards. We liked it so well that we shall continue to use it. There is one disadvantage you have not mentioned; and that is, in the spring the colony in the pair that is the stronger has a tendency to draw from the weaker. During the playspells of the young bees, the stronger colony, making a bigger show, will draw the young bees away to some extent. However, this slight disadvantage is not great enough to over-balance the advantage of being able to unite in the fall, putting the weak one with the stronger, and taking away its hive entirely.—Ed.]

THAT article by Chalon Fowls, p. 574, sets one to thinking. But isn't ye editor a bit sweeping when he speaks of a swarm according to nature having "nothing but old bees"? A bee would hardly be called "old" until it becomes a field bee. But in a natural swarm aren't there bees from the oldest down to those just able to fly? and don't you sometimes find on the ground bees too young to fly that have tried to go with the swarm? Yet a beginner might understand from what is said that only field bees are in a swarm. However, in a shaken swarm baby bees are brushed off that would never go with a swarm, and that might make a subtle difference. [You have taken our language too literally. What we really meant and perhaps ought to have said was flying bees in distinction from those that are nurse bees or those that could not fly. This does not mean that nurse bees cannot fly. Yes, it is true there is no invariable rule in regard to swarms. A swarm may and possibly does carry away three-fourths of all the bees—possibly nearly all that can fly. Some of the bees are much older than others, as a matter of course. The point we tried to make was that the old shake methods of swarm control were defective in that they took bees of all ages.]

But you entirely skip over the important thing we want to know—what is your opinion of the Fowls plan of swarm control? Is it as good as or better than some other plan? It is more important to know what you think about that than what constitutes "old bees."—Ed.]

Grace Allen

THE DIXIE BEE

Nashville, Tenn.



THE CREED OF THE WORKER BEE.
I believe in true work and the spirit of service—
Not in a visionless grinding at tasks;
But the mood that springs forth all athrill with the morning
To find in its work all the rapture it asks.

I believe in each giving himself for the many—
Not in a sad or a spiritless way,
But fully and freely, a gift worth the giving,
As flowers give fragrance and dawning gives day.

I believe in contentment, devotion, and courage;
Eagerness, loyalty, gladness, and song;
And in something all-wise and all-wonderful round us—
'Tis God I believe in! To Him I belong!

We could scarcely keep up with our peaches and plums this year, and for some time the ground under the trees had considerable over-ripe fruit lying around, or that which broke when it fell, and the bees certainly did help take care of it.

An Alabama correspondent writes enthusiastically of his success with the shallow supers, including his use of them to form a divisible brood-nest, according to Mr. Scholl's method, recommending it as well adapted to women beekeepers.

We set out a few young grapevines this spring, and are not at all pleased with the way they have (or have not) grown. Still less are we pleased with the construction of our so-called arbor. So the arbor is to come down, and most of the vines are to come up. Then we shall start all over with the plan of having each vine on a single trellis by the south side of a hive. In this way we shall have shade for our bees that will not only supply us with grapes, but, according to the editor, page 611, Aug. 1, will also provide a protection from the too persistent attentions of the militant members of our apiary.

Wasn't it attractive—that honey-plant number? The pictures were beautiful, and the information was of the tempting kind that "tastes like more." When a study is both as delightful and profitable as the study of honey-plants for a beekeeper, why should we be slow about going into it more exhaustively? A knowledge of the succe-

sion of bloom becomes a guiding factor in the management of an apiary, especially in seasons when the crop is not generous and the beeman may be tempted to extract pretty close; for then he surely should know whether there is enough bloom between clover and aster, for instance, for his bees to be self-supporting, or whether, having taken most of their supplies at a time when there are few nectar-bearing blossoms, he must feed.

Won't Mr. J. H. Todd, or some other advocate of the Simmins method of introduction, explain the advantage of the darkness? This is exactly the method I have seen Mr. J. M. Buchanan, of Franklin, Tenn., use, except that, after his queen had been quite alone without food for about half an hour, she was quietly run down between the frames *in broad daylight*, the whole operation being performed at the hour that happened to suit Mr. Buchanan's convenience. It seems as though having to do the work at night might be quite a drawback in an outyard, which was where we saw Mr. Buchanan operating. He was well on his way to Franklin by noon. We ourselves have never tried it, having used cages successfully and the smoke method disastrously. But we don't blame the method. It was probably clumsy work.

It doesn't appeal to me to let the queen have the run of the hive, and from neither my limited experience nor my more extended reading can I figure out any objection to keeping her more or less confined, according to the method in general practice. To find brood scattered around in the frames removed for extraction, as Mr. Poppleton admits he often does (page 147, Feb. 15), doesn't appeal either. We were very enthusiastic over an apiary we visited in 1913, with colonies tiered several hives high, but were surprised to see no evidence of queen-excluders. Replying to our questions, the owner assured us the queen would not go above the second story to lay, but later his wife said they had had a dreadful time extracting, with brood scattered all through the extracting-frames. It seems unnecessary, when the queen can be so easily confined. I wonder just what objection Mr. Poppleton has to the use of the queen-excluder for honey production, when he says he would use it for queen-rearing (page 577, July 15).

BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



The field meet held at San Bernardino recently is said to have been a big success. I regret that I was not able to attend so important a meeting so close at hand, but it was impossible for me to get a leave of absence.

I recently enjoyed a few hours' visit with my friend J. D. Bixby, of Covina. Mr. Bixby was just shipping the last of his honey to Los Angeles, where he finds a ready market for comb honey when extracted is a drag. Comb honey is all right I guess, but then—well, I kinder hate to tackle it—lots of work.

The editor tells us, page 609, Aug. 1, "how to get a cheap automobile truck for the beeyard work," which doubtless is correct; but what we need in California just now is a racing auto to run down a honey-buyer. Beekeepers are a little too much discouraged at present to be figuring very heavily on automobiles.

I read in the morning paper of August 1 of a beekeeper in Florida being arrested as a spy. A German by birth, and only a short time in this country, he was, as the story goes, making drawings of important places from a military standpoint along the southern coast, and was hiding his identity by posing as a beekeeper, which goes to show that you can't always tell what these beekeepers have up their sleeves.

I use only five-frame nuclei hives for mating colonies—two to four frames in each hive. After the season is well advanced I stock them with five combs; and by spring I have a splendid start for an increase in working colonies if a good season is in prospect. The most satisfactory way to build the nucleus up to a strong colony is to set another nucleus body filled with combs over a little colony, allowing the queen access to both sections. A full colony will be the result at no distant time. A five-frame colony will build up far more rapidly on ten combs so arranged than if the combs were set into a ten-frame hive-body and the other five combs placed by their side.

There is a pretty well-discouraged bunch of beekeepers in this part of the world just now. The crop and price, none too large,

with the usual expense of supplies, makes the situation very discouraging. The price that is being offered by buyers compared with quotations to retail grocers by wholesale grocers is too wide apart to look good to the beemen. The situation resembles a transaction I have just read about in the East. A peach-grower in Arkansas shipped 41 bushel baskets of peaches to a commission house in Kansas City. He received \$2.35 for his 41 bushels of fruit. In one basket a note was placed addressed to the final purchaser, with the request that the shipper be notified what the consumer paid for the basket of fruit. A letter from the purchaser, living in Kansas City, Kansas, said she paid \$1.15 for the basket, but they had been selling for \$1.25 until that time. The shipper received less than six cents per basket, while the consumer paid twenty times that amount. Doesn't look just right, does it? Just such work as this threatens the whole business fabric of the nation.

Southern California is very much in need of a beekeepers' organization for the southern half of the state—not a state organization, but a southern California organization, something on the line of the one maintained by the northern part of the state. Indeed, I am very much in doubt if a state association is practical in this state. The elements are widely separated, and the getting-together in a working unit is very expensive, and, as a whole, is not profitable, if we are to judge by the results of the past. There has been a state organization for the past twenty-five years, yet we find ourselves groping in the darkness as to the marketing situation at this very hour. The only source we have from which to judge the market is what we are told by the buyers; and as a business policy we cannot expect them to encourage prices until they are loaded up. Then, too, they well know that, the lower the figure at which they can turn honey at a profit, the more they can turn and the greater the net profit. The condition of the beekeepers is so well known that we may be handled with impunity. We should at least get together in one central meeting in the southern part of the state. There are many of us who thoroughly enjoy the annual meeting in Los Angeles, and who will miss the opportunity to meet there the coming winter to talk over and discuss matters affecting our business.

NOTES FROM CANADA

J. L. Byer, Markham, Ontario



The white-honey harvest is over in Ontario—at least in the great majority of places. In some localities in the north, where willow-herb grows, this may give a surplus for a week or ten days yet, should weather dry up a bit; but this plant bloomed earlier than usual this year. Basswood did quite well in most places, and here in York County it gave the best spurt we have had from that source for some years. As a result the province has a fair crop of honey, and at our home yards the results are much better than anticipated when writing my July 1st notes. At the north yard we have a good crop of nice quality. With fair weather from now on, a buckwheat crop would round out things nicely, and in addition put the bees in good shape for winter.

To-day is Aug. 9—normally harvest time for the farmers, and a time when we expect the strong smell of buckwheat in localities where this plant is grown. As a rule at this season the query is whether we are apt to have sufficient moisture to make the buckwheat secrete nectar, and even the farmers often wish for rain to help the crops not already mature. But what a difference this year! Rain, rain, every day, and regular downpours at that. Wheat that is cut is growing in the sheaf, and other grain crops are level with the ground, a tangled twisted mass.

Of course nothing is doing with the beekeepers either; but our loss is so insignificant compared to the farmers' that we hesitate to complain. Rivers and creeks are out of their banks as in spring flood, and low fields are under water in many places. In twenty-four hours we had one rainfall of nearly four inches, while on several other occasions within a week an inch or more was recorded. Of course the real bright spot in all this wet time is the fact that there will be an abundance of clover next season. One year with another the rule holds good, that a real wet season is always followed by a good clover year.

In moving bees long distances, as in the case mentioned on page 522 in regard to those bees in Texas, it is hardly to be avoided in having some colonies run short of stores. But when colonies have so nearly starved as to have only a few cells of

honey, as a note of warning to beginners who may think that such a condition is not detrimental to a colony so long as it is not actually allowed to perish, I might say that, when reduced to so low an amount of stores, the brood will have suffered a lot before that. Before a colony actually starves, the bees will suck up the juices of unsealed larvæ; and from observation a few times when they had not quite reached that last stage I feel sure much of the younger brood is allowed to perish by not having food given it.

The quarantine on shipments of bees from one state to another, providing that all such shipments must have proper certificates of health before being allowed to enter a given territory, as mentioned in the case of Nevada, page 608, Aug. 1, is a wise provision, and is bound to be copied by other states and provinces in the near future. It not only protects the beekeepers, but the man importing or shipping the bees out of a country as well. Just at present I have received some redhot criticisms of a well-known beekeeper in Ontario, who, it is alleged, imported bees from one of the states, and at the same time imported European foul brood into a territory supposed to be free from this pest. I am not attempting to judge the case in any way, as I am not sufficiently in possession of the facts of the transaction to make much comment; but the fact is indisputable that, had this shipment had an inspector's certificate giving a clean bill of health, there would not be half the chance for harsh criticism. Of course it would be quite in order for the Province to quarantine any shipments for a given period, even if the bees had been inspected before shipment, especially if the load came from a locality known to have brood diseases.

Mention is made on page 611, Aug. 1, that environment and other factors have much to do in determining how bees are apt to be tempered when working with them. It certainly has, as I have had an illustration this year that proved it abundantly. At one place we had for the last few years about forty colonies that had a record for being very cross—in fact, we often thought they were really devilish. These bees stood in an open field, and when working with them they would often follow us for twenty

Continued on next page.

BEEKEEPING AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado.



HONEY-CROP CONDITIONS.

Colorado has had abundant rains this season—in fact, too much at times, and there has been too much cold and cloudy weather with the rain. We have three inches above normal precipitation this year, and a deficiency in temperature of nearly three hundred degrees. This condition has been quite general throughout the Rocky Mountain region. If we could have had higher temperatures with the same amount of rain it would have been almost ideal. The short snowfall in the mountains has been fully made up by the rains, so there has been no shortage of irrigation water to speak of.

Sweet clover is in excellent shape, and is yielding well at this date, Aug. 11; but we have had such a late season that one case of comb honey around is all we can hope for. That much will not be secured unless the honey-flow lasts well toward September. The average comb-honey crop will be less than one case for the state. In the Arkansas Valley bees are doing fairly well from Lamar to the state line. West of Lamar, as far as Rocky Ford, conditions are poor—a thirty-pound average of extracted honey being expected by one producer at Las Animas.

In the Ordway district, conditions are not reported favorable; and while bees were doing well in Fremont and Custer counties early in August, no large crops will be secured, and no shipping honey will be harvested.

Northern Colorado is blessed with abundant sweet clover, and about a one-case crop of comb honey will be secured.

Montezuma and La Plata counties in southwestern Colorado had late freezing weather this year, and the alfalfa was frozen and blighted worse than anywhere in Colorado. Sweet clover was just coming in bloom the latter part of July, but bees were doing well; and with the general late flow in September a fair crop may be secured.

Delta County has not materialized the crop that indications pointed to earlier in the season. Spraying trouble is again reported from Cedaredge, Garfield County. Conditions are very poor, and little honey is expected. The shipping crop in Colorado this year will be less than last unless we have very good honey weather from now on.

Idaho will produce some honey; but the

season in the Twin Falls country closed (or practically closed) in July.

I have six hundred colonies here in Boulder County, and have taken off only about twenty cases of comb honey. Prices have started out well, but will drop soon. Some few cases were sold at \$4.00; but most that have been sold have gone at \$3.50. A great many tourists are in Colorado this summer, and they are buying honey well. Comb honey is now retailing at 20 cts.

There has been but little swarming in eastern Colorado; and what there has been occurred mostly in August. If large prime swarms in August indicate a late honey-flow we should have it this year.

On page 622, Aug. 1, the flowers growing on the brook bank shown in the illustration are not lupins, but are the loco weed. Bees work more upon the white-blooming loco than upon the purplish blossoms. This mistake was made in writing the description of each flower upon the back of the prints. The lupin is a larger plant, with plumelike blossom stems of bluish-white flowers. I have a photograph of the lupin that I will show later.

Continued from preceding page.

rods or more when leaving the yard. One day a couple of friends came with an auto and stopped about four hundred feet from the yard. They beckoned for me to come to them; and when I came there was company with me. I can still see the driver hastily cranking the machine and going up a three-foot embankment to get to the top of the highway. Doubtless when this meets his eye he will remember the occasion also. However, this spring it became necessary to move this yard, and half were brought to the home yard, the rest being taken to an outyard. In both cases the bees are among trees and surrounded more or less by evergreens. My intention was to requeen the whole lot in fruit-bloom as I dreaded consequences of such bees near the working land of the farmers on whose places they are. But weather was bad and work pressing, and the requeening was not done. But the sequel of this roundabout narrative is yet to come. These bees have given no trouble in their new locations. Not a single member of the two families where the yards are located has been stung once, so far as I have learned.

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



SOLAR WAX-EXTRACTORS.

"Doolittle, I came over to have a talk about solar wax-extractors."

"Very good, Jones. The solar-wax extractor is something every man keeping bees should have, even though he has as few as five colonies."

"But I am told that it is comparatively worthless for melting up old combs."

"The man who has old combs by the hundred to melt up could doubtless make it pay to employ the water or steam process; but for the ordinary collection from an apiary of from fifty to one hundred colonies, the solar wax-extractor will take care of all the accumulation during each year. From such apiaries no great number of old combs can be profitably spared to render into wax."

"But I do not think I get fifty per cent of the wax from old combs."

"Do you do more than put in the old combs and allow the sun to melt them?"

"No. What more can any one do?"

"As soon as the sun has heated these old combs so that the wax will run out from those at the bottom of the pile, take a wooden paddle and press the refuse against the side of the comb-pan where the rays of the sun strike the most squarely. You will see the wax run as you never saw it before if you have never done this."

"What shape is your paddle?"

"The paddle itself should be about six inches square, with a handle two inches wide. I made mine out of half-inch stuff, rounding the side used for pressing out the wax so that it somewhat conformed to the concave side of the comb-pan. With such a paddle, used with a rocking motion, three or four times an hour or so apart as you are passing the extractor, 95 to 98 per cent of the wax any comb contains can be gotten out unless the comb contains so much dry pollen that it absorbs the wax as it is melted. The only way to get wax from combs largely filled with pollen in quantities that will pay is by the water process."

"But don't the wax and dirt all mix together when coming from the solar wax-extractor?"

"That depends somewhat on how the extractor is built. If so small that it allows the wax, as it drips from the comb-pan in your extractor, to cool and harden as it drips, more or less dirt and dregs will come off and be mixed all through the wax, and

melting over for purifying in such an extractor is only doing over again the same process with the same results."

"How can the purifying be done then?"

"By making the extractor large enough so that it will allow the dish which receives the melted wax from the comb-pan to be in the sun under the glass, which keeps it in a melted condition for hours. Wax is purified by allowing it to remain for several hours at a temperature between its melting and boiling points, thus giving a chance for all impurities to settle to the bottom. This is exactly what can be done in the sun extractor just as easily as not to do it; and by using this extractor in any other way deprives it of half the benefit to be obtained in using it."

"But will all the dirt and dregs settle to the bottom where wax is kept melted for half a day?"

"To overcome all this dregs and dirt matter I punch two holes near the outlet of the comb-pan on either side, and, by means of a wire suitably bent, hang a small strainer made of cheese-cloth or some other suitable fabric so that the hot wax is strained as it passes from the comb-pan to the dish receiving it below. As both the strainer and the receiving-dish are in the sun all the while, the wax is so thin that a fabric can be used that will take out all but the very finest of the dirt."

"How do you keep the dregs from flowing down with the wax from the comb-pan into the strainer? The incline of the comb-pan would carry all along together."

"About two inches above the outlet of the comb-pan two other holes are made, one on either side of the center, into which go two wires to which is soldered a piece of quarter-inch-mesh wire cloth. This wire cloth is fitted at the bottom to conform to the concave of the pan. This arrests in its flow toward the strainer all but the wax and the finest of the dirt."

"What is used for a receiving-dish?"

"After doing some figuring I got our tinsmith to make some oblong square tins which hold two pounds of wax, when the melted article came within a quarter of an inch of the top; and when the proper amount was in, the cover was shut over the glass till the wax was cold, when it would come out in a brick form suitable for a fancy market. In this way it could be packed in a proper-sized box and shipped in perfect condition to any market."

GENERAL CORRESPONDENCE

EUROPEAN AND AMERICAN FOUL BROOD

BY R. F. HOLTERMANN

It has at last become my experience to know what it is to have European foul brood among my bees. Could I do so it would not be especially edifying to tell any one how I got it; but for some years I have been looking for its appearance, and, according to advice, I have aimed at having only Italian bees. Just now I am not prepared to say that the disease attacks black colonies more readily or more severely than Italians; yet I have no doubt, from the abundance of disinterested testimony, that such is the case, and I am substituting Italian queens for blacks in such cases.

ITS SPREAD.

Some one has written to me saying that I can be thankful that it is not American foul brood; but at present I can by no means agree with that view. Contrary to the statement of those who have gone by hearsay, I have never had more than seven colonies out of a hundred in any apiary with American foul brood, and I think I am correct in saying that only once in over thirty years of beekeeping have I had that much.

With American foul brood I have sought to isolate the occasional cases of disease; and in doing what I could I have burned and buried not only brood-chamber combs, but surplus combs and honey, and charred the inside of the hive and burned 12-oz. duck quilts. This burning was done for fear of any little slip in handling or rendering that which might have brought them in contact with the disease. In this way I have been able to stamp out the disease, and, to illustrate, have not seen a cell of American foul brood in any apiary of ours for some time. I feel confident that, with care, I can get rid of American foul brood by isolation and by the destruction of any thing that I know has the germ about it, bearing in mind the prevention of robbing or of feeding any honey back to the bees, even if I think there is no disease in the apiary. Feeding back honey has resulted in the extensive spread of the disease in the apiaries of some very well-known beekeepers.

When it comes to European foul brood, the possibility of stamping the disease out when once it has been introduced appears to be a question which can be answered by

many only as being doubtful. Probably some prefer European foul brood because the bees can clean it from the cells or because some advise not shaking the combs, and in this way a saving appears to be made.

TREATMENT.

When the first cases of the disease were found I was not quite sure what it was. Owing to a pressure of work the actual condition of things did not take proper hold of me. I wrote the inspector, who was absent, and left matters for about a week or ten days. Then I decided, let it be what it might, I would treat the colony as if it had American foul brood, feeling that I had lost valuable time over it. I shook every colony having any trace of it, and put the bees on starters and then on full sheets of foundation. But, as many of us know, this takes the courage out of bees, or wears out their powers to secrete wax.

I decided to take out all combs with more than a few cells of diseased brood, stack this brood upon a colony with the disease, let the healthy brood hatch, and allow the bees to clean out the disease. Thinking this matter over during the night, I decided I had made a mistake. The disease is transmitted in some way different from American foul brood, and one great distinguishing characteristic is that in American foul brood the diseased brood is untouched by the bees. In the other case it is cleaned out. In the process of dragging out the diseased brood, the bees get the germs on other parts of the comb, and their own bodies become germ-carriers, even to the field, garden, and wood, and leave them on blossoms, even miles from the apiary. Thence they may be carried miles in another direction by visits from other bees, and be brought in contact with brood in other hives.

In fact, in my estimation a colony of bees quite distant from a diseased colony getting the disease shows that it is not likely to have obtained it from stray bees. For the above reason I try to allow no cells to be cleaned out by the bees. Where a cell or two or even more are found in a hive we have cut around it, keeping away from the disease, and can put this cut-out comb into a tin can and afterward burned it.

Where the disease is in an apiary, and

bees have come in contact with the germ, there would be very great danger of the spread of disease. Such a case would be that of robbing from a common source, such as from combs after extracting, and from exposed honey.

For years I have said that when European foul brood struck our bees I would throw up the sponge, walk out, leaving the outfit behind me. I may do this yet, I sometimes think. However, since adopting the above radical methods we have found, I think, only two cases we had not seen before. At the same time, we have had too much work to do to look very carefully for dead brood.

Lest any one might be anxious lest he might have the disease from queens or colonies shipped by me, let me say no one has received a queen out of any of our

apiaries this season; and with one exception the bees shipped out were from an apiary which even now has shown none of the disease. In that exceptional case the man was written to at once, and told that the disease had been found in the apiary from which the bees were supplied. It appears to me that when the disease is in a new section of country, as in this case, beekeepers should be warned, so they can be on the lookout. The statement which some have made, which came first hand from a friend last year who had been told that I had been importing the disease into Canada, is totally untrue. No inspector nor any one in my employ, nor myself, had found a cell of foul brood in anything I have imported.

Brantford, Ont.

PRUNING DISEASED CELLS FROM A COMB; IS THE PRACTICE SAFE?

BY J. F. KIGHT.

I have just had an experience which, so far as I know, has never been reported to GLEANINGS in a similar manner. In early May I bought seven colonies of Italian bees and placed them in an outyard; but before doing so I examined them carefully twice, about eight days apart, and found them to be in fair condition, and breeding up well. Knowing the presence of American foul brood in the neighborhood I took particular pains to see that they were not diseased. I examined them again on the tenth day after bringing them home, and, to my surprise, I found six of them with from one to six cells of American foul brood. As soon as nectar began coming in I placed a super of starters above them, and, with a little smoke and a little hammer, I drove them above. Then at the end of the 48 hours I placed them on full sheets of comb foundation and left them as cured. I stacked the six old diseased hives by pairs, and at the end of 21 days I shook all the bees off the diseased combs on to the starters, and in 48 hours I gave them full sheets of foundation, and felt sure I had perfected a cure.

Now comes my story. In making this last cleanup some bees with infected honey must have gone into a hive just in the rear, for I found in about twelve days three diseased cells in one frame. The queen had almost filled every comb with brood, and to destroy all of them again seemed too great a loss, so I decided to prune. With a sharp long-bladed pocket-knife I cut out

these three diseased cells, making a hole in the comb about an inch in diameter. That was over a month ago, and there is no disease in this hive, and now it is one of the best and strongest colonies. So it seems that, if the disease can be detected in its incipient stage, pruning might save it. Certainly it has done so in this case.

It will be noticed that in the first case I drove the bees, and in the second case I shook and brushed all off. The reason I prefer to drive in the first instance is that it is no trouble to cause the queen and the old bees to rush to the top hive from the smoke and hammering; then there are left enough young bees to care for the larvæ. Besides, this drive system is more sanitary and there is less danger of spreading the disease. The second shift, all bees must be saved; hence it is necessary to shake and brush.

I should be glad to know whether or not this disease has ever been cured in a similar way.

Indianapolis, Ind., July 21.

[We have had reports from those who have pruned out the diseased cells in a colony showing American foul brood. In some cases a cure was effected. But it is fair to say that we have had reports from other people who have tried this pruning business and found it unsatisfactory. It may eliminate the disease for a time; but sooner or later, especially when the stores are pretty well eaten down, the old disease



Completely equipped honey-house of B. N. Allen, Birmingham, Ala.

will reappear. In the same way, a heavy honey-flow will cover up the infected material; but when this honey is consumed, and the bees get down to the old original stores that were left, foul brood will break out again. In some cases, doubtless, the pruning cure will be complete; but you can never tell. Some day it may break out again, perhaps a year or so hence. Of course, there are objections to shaking, chief of which is the cost, the loss of brood, and the destruction of otherwise good combs. By stacking up you saved the brood but you didn't save the combs. Well,

when the disease broke out again, and the nives had been shaken, you probably did the correct thing to prune it out; but you would do well to set those "pruned" colonies in some isolated location, and watch them closely next year when the stores are pretty well eaten down.

In this connection, during the honey-flow combs should never be shaken. They should be brushed with long grass or weeds. These extemporized brushes should then be burned or buried. The combs may then be stacked up or burned.—Ed.]

THE HIGH COST OF LABOR, AND SOME OBSERVATIONS BY THE WAY

BY L. W. BENSEN

I am wondering who could afford to pay five dollars a day for a hired man to work with bees alone. I am a hired man myself, and I am satisfied with two dollars a day the year round. I have worked for several years in different states. All my employers paid what they could afford, and in every case I had a home and the work was a pleasure. They furnished me good board,

and an automobile to ride to outyards. Everything needed was handy.

If the owner is to pay five dollars a day for labor, what is he to make? If I cannot make two dollars for the man I work for, I would rather quit and give him a chance to get a better man. I have bound wheat at a dollar a day—hard work, but no harder than taking off honey. To work the year

round is easy. I sit and put in foundation. It is just as easy as to sit and read. I have put in a whole lot in one day, too, for Mr. B. F. Smith, of Cowley, Wyo. I have filled 60 supers a day, two pieces in each box, 28 boxes to the super, and I tried to put them in as well as Miss Wilson does for Dr. Miller.

No other business on earth requires a more reliable man than the bee business. A man must not only know how to do the work, but he must do it on time, and a lot of it, to earn even \$1.50 a day.

This honey-house, owned by my present employer, Mr. B. M. Allen, of Birmingham, Ala., has a concrete floor, hydrant water, stove, roll-top writing-desk. Outside are shown some of the 200 hive-stands that I am painting, ready to replace old ones. White ants are hard on wood here. I painted with roof tar. There are 250 colonies near this house.

No, I do not use the tank shown in the

illustration for extracted honey. It holds 14,000 gallons of water supplied from an artesian well.

For cutting foundation I make a miter-box, similar to what carpenters use, except that I make it the same width as the foundation used and six inches longer. It is high enough to hold twenty-five sheets of foundation—a block held a little at the end to butt the foundation against, another to push it along. The same saw-cut is used to cut narrow and wide starters. I use a case-knife with a wavy edge which is sharpened all along on one side, so that the bevel pushes the foundation away.

Not so much of the melted wax gets on the end to stick to the cut-off sheet. Then, too, I wipe all the wax off the knife after every cut and keep the caseknife blade on the hot plate of the foundation-machine. It is as easy to cut foundation as to eat buck-wheat cakes and honey.

Birmingham, Ala.

THE POLLEN-YIELDING WATTLES

BY T. RAYMENT

The wattles are undoubtedly the national flowers of Australia. Like the gum-trees* they are spread over the entire continent in varying forms, some of which are very beautiful indeed. The illustration depicts the bright-yellow pollinia very clearly. When fully opened the flowers have a unique fluffiness extremely difficult to delineate. A close scrutiny of the blossom gives one the impression of floral pompoms composed of delicate stamens radiating from a common center. The specimen shown is a native of New South Wales, generally known as "Cootamundra" wattle (*Acacia Baileyana*). This variety is greatly favored for garden planting on account of its rapid growth and great beauty. The foliage is very feathery and of a rare shade of green, somewhat like that of the carnation.

While Australia has a vast number of

good (eucalypt) pollen-plants, none are comparable with the wattles. In GLEANINGS, June 15, J. E. Crane desires an analysis of pollen. We are better off than that, for we have had many samples of pollen analyzed, and the wattles are away ahead of anything in Australia for nitrogenous protein content. It is doubtful whether any pollen in the world is richer in the essential



Floral pompoms, delicate stamens radiating from a common center.

* The vernacular name for the various species of eucalypti.

elements so necessary for the maintenance of bee life. Pollen grains in the bees' stomachs are in a growing condition—*e. g.*, live food. No meal substitute—which is inert—can ever adequately take the place of the natural supply. Better plant a variety of pollen-bearing plants, and for this purpose there are none better than the Australian acacias.

The wattles should thrive in the United States, and the profusion of bloom—which completely eclipses the foliage—should surely delight the apiarist and his bees. For potato land the silver wattle (*Acacia dealbata*) is eminently suitable. Sandy loam country for the black or tan wattle (*Acacia decurrens*) and rising stony land for the golden wattles.† A characteristic feature of the Australian "bush" or forest is the great number of wattle seedlings that come up after the terrific roasting of a brush fire. This is due to the heat cracking the hard seed covering and permitting moisture to reach the vital germ. When handling wattle seeds it is advisable to remember this, and to pour boiling water on them the night before planting; also do not give any manure or fertilizer.

Some of the Australian forests are composed of one variety of eucalypt only—*e. g.*, yellowbox (*Eucalyptus melliodora*). While this tree yields splendid crops of honey—up to 300 lbs. per colony—it furnishes little or no pollen, consequently strong colonies dwindle down to mere nuclei. It will be seen from this that the question of a pollen substitute is a vital one to Australian apiarists.

†*Acacia pycnantha*.

About pollen substitutes, we have had the best success with the white of an egg—almost pure albumen—beaten up with powdered sugar to a candylike consistency. The bees breed up very strongly on this compound.

In all the discussions we have heard or read on this subject, none appear to dwell on the inert character of all meal, such as peameal, rye flour, etc.—substitutes. Illustration: A man buys a paddock and sends a sample of soil to the agricultural chemists for analysis. This report states that it possesses all the constituents necessary for the production of a maize crop, and yet maize may refuse to grow in that paddock. The elements are there, but inert—that is, they are not in a form suitable for plant assimilation.

As the readers are probably aware, the bark of the wattles is rich in tannin, and is valued on that account for making leather. Black wattles are ready to strip when about seven years old; and the bark is worth about \$35 per ton. South Africa has planted them extensively, and has built up an export trade in tanbark. The Cootamundra wattle begins to bloom when about three years old; and to see an Australian river with a golden border perhaps a couple of chains wide is a sight never to be forgotten. During spring time special trains run from Melbourne, the metropolis, to enable wattle-lovers to appreciate the golden glory.

Briarolong, Victoria, Aus.

Editor's Note.—This is the concluding article of a series of three by Mr. Rayment on certain important pollen and nectar yielding plants of Australia.

IN THE WEST VIRGINIA HILLS

BY JAMES I. LUTES

When I was a small boy my father kept bees on the farm in the old-style box hives. Some were in hollow logs sawed about two feet long and chiseled out and smoothed up in the best possible way. A few colonies were hived in nail-kegs. A square box or small store-box answered for a super, with a small hole bored in one end for the bees to escape.

When he thought the box was full of honey he would just take the cob or old rag from the hole in the end of the box. He would pound on the sides and top, and if it sounded as if it were full of honey he would remove it. This was along in the '60's and '70's when meager attention was given to beekeeping.

Whenever a swarm issued he would gather up old buckets, dishpans, and sleighbells, and rush out at breakneck speed to get them to settle on some nearby limb. At the present we hoot at the idea of making such a fuss and worry. We just let them alone—by far the better way.

I have been a merchant for the past thirty years, and a beekeeper for five or six. I have had the bees merely for pleasure and recreation. I love Nature, and like to work and be with the bees. They seem to bring me rest, and cause me to forget the cares and worries of business.

About six years ago I purchased some bees from a neighbor who was getting very old, and was unable to look after them



The bees bring me relief from business worries.

any longer. The six stands were in the old Gary hives. The same winter they all died. That year there was much black honey, which I believe killed them. Possibly the honey-dew had some effect. The loss of thirty dollars discouraged me somewhat, but I decided to try my luck again.

I then procured two stands of Italian bees which I have in my apiary yet. To the present time I have increased them to fourteen.

Part of my bees are in the ten-frame

chaff hives. Since I have sold my general merchandise business, my health demanding outdoor work, I am now going to pay more attention to my bees and live out in the open. I want to get God's pure air and sunshine, and be away from the shut-up store.

I have a beautiful place for my apiary. It stands in the orchard close to a small stream where the ground is perfectly level.

Glen Easton, W. Va.

WHY QUEENS LAY IN QUEEN-CELLS

BY J. E. CRANE

On pages 489 and 490 are some original thoughts and theories by J. E. Hand, presented in an interesting way. I have neither time nor disposition to reply to them all, but will content myself in calling attention to one or two of them. In this he tells us that "broodiness in queens, as in hens, is a period of temporary exhaustion of fecundity during which the ovaries are speedily developing another batch of eggs. During this period of broodiness, which varies in duration with different queens, the mother instinct predominates, and the queen will lay eggs in queen-cells at no other time." Italics my own.

Now, if our friend Hand had said that this was true in many cases, we should doubtless have agreed with him. Or if he had said it was far more often the case than the average beekeeper suspects, he would not have been far from right. Or if he had said that he believed such to be the case we should have had little disposition to disagree with him; but when he states it as an absolute fact I beg to differ with him.

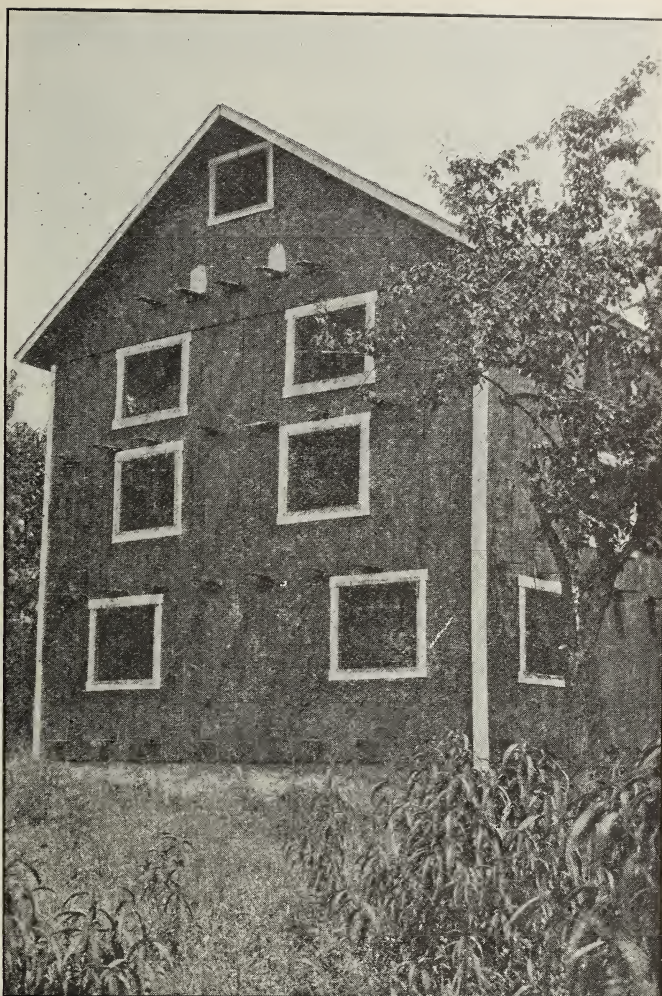
The next day after reading this article I went to an outyard where I found a colony, one of the most populous in the yard. It had a last year's queen and a large amount of brood in all stages. In fact, the bees

had carried most of the honey into the super to make room for brood in the brood-chamber. There was no evidence that I could not discover that the fecundity of the queen had been exhausted some ten days previously, as there was a large amount of eggs and unsealed larvæ in the hive. It was, in fact, almost the only colony I found in the yard preparing to swarm, with perhaps the most prolific queen. Did she place eggs in the queen-cells because of the exhaustion of her supply of eggs, or was it for lack of room in which to lay her super-abundance of eggs? I thought the latter reason most in harmony with the facts.

Again if, as Mr. Hand states, the eggs are laid in queen-cells because of the exhaustion of eggs we should naturally expect to find eggs most frequently in queen-cells in large hives where the queen has a large amount of room for egg-laying. But instead we find eggs in queen-cells most often in small hives where her laying has been restricted.

We sometimes have seasons in which a large amount of brood is reared with very few eggs in queen-cells as little honey is coming in, and the bees wear out rapidly, but in other years, with less brood in the hives but honey abundant in the fields, we find almost every hive supplied with eggs in queen-cells. Can it be that queens are more broody in seasons of abundance than in years of famine?

Other reasons might be given for disagreeing with Mr. Hand along this line, but enough has been given to show that there is more than one cause for queens laying in queen-cells. I believe there are many, and temporary exhaustion of the supply of eggs is only one of them.



House apiary of W. H. H. Stewart, Emerson, Ill. Mr. Stewart writes that he considers the keeping of bees out of doors a "makeshift."

Another matter with which I take issue with my friend is sealed covers for winter use. He tells us that "sealed covers on the inner chambers under the packing preserve the heat." This, in a sense, is true; but it is not the sealed covers that preserve the heat, but the packing. We do not cover a sweaty horse in winter first with an oilcloth or rubber blanket, and then a woolen blanket to keep him warm. No! we cover him with a good woolen blanket, and if that is not enough we put another woolen blanket over the first. We do not keep ourselves warm in severe weather by placing first over our bodies an air-tight covering, and then over that woollens or other cloths to retain the heat, and then leave off our shoes and stockings for the air to circulate be-

neath our clothes to take up the insensible perspiration. No, we avoid all garments that will retain moisture, and use only those that will retain heat and allow moisture to pass through.

I agree with Mr. Hand that porous packing called an absorbent is a misnomer. It is not an absorbent. But if I were to hazard a guess I should guess that the principle of the use of winter packing has often been misunderstood. The fact that it is often spoken of as absorbent leads me to think so.

The object of packing is not to absorb moisture, but to conduct moisture away from the brood-chamber without letting the heat escape. If we were to call a cushion used for this purpose a moisture-conducting and heat-retaining cushion you have the idea exactly. If a cushion or packing fails to do this it is a failure. If we were to use

a sheet of iron or a flat stone over our brood-chamber we should have exactly the opposite result—viz., the retention of the moisture and dispersion of the heat of the hive. A properly packed hive allows very little air to escape through the packing or very little upward ventilation. I doubt if as much air escapes through the top of a well-packed brood-chamber without a sealed cover as from a brood-chamber with sealed cover and large entrance.

I began the use of packing above brood-chambers more than forty years ago by the use of a thick layer of wool over a cloth above the frames, and I am still using old cast-off woolen cloths for this purpose. I do not use them for absorbing moisture, but as a good material for retaining the heat of the hive, and allowing the moisture to escape.

Middlebury, Vt.

PICKLED PARAGRAPHS

BY BENJAMIN F. KIRK

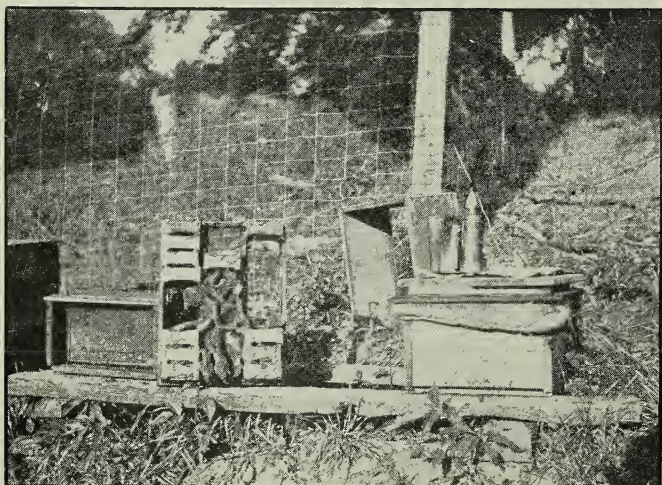
Lots of ink is spilled in cussing and discussing the old box hive; but there's no hive that baffles the inspector like the modern hive with crossed combs and the bottom-board nailed firmly on, unless it is the old box hive with the bottom-board slipped up on the inside and nailed in from the sides. But what's the use of mentioning it, as I have been told with emphasis by good authorities that those hives were not constructed with the view of facilitating the work of the inspector? The accompanying

photographs show conditions that inspectors meet too frequently when attempting to inspect comparatively modern hives. There is no branch of rural industry that is treated with such careless indifference by the average farmer as beekeeping.

It may seem paradoxical; but experience bears out the statement that quite frequently the only man in the community who is harboring foul brood is the up-to-date beekeeper who emphatically demands that the inspector come to his community at once

and make his neighbors clean up. This is not said in a spirit of criticism, but simply to show that the business beekeeper frequently invites foul brood by buying queens, bees, and appurtenances of the apiary. He himself brings in the disease, and then innocently assumes that it has been carried in by his bees robbing his neighbors' extinct colonies.

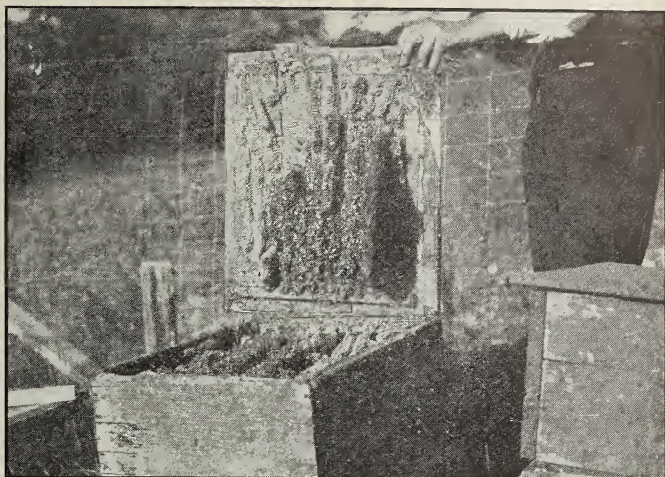
I often wonder why more of the intelligent young beekeepers who are striving to get nice apiaries established do



Too frequently inspectors meet conditions like this.

not take to teaching school during the winter months. Teaching would give them pleasant and profitable employment for the part of the year that is not so much taken up with the work of the apiary, and would still leave them their Saturdays to look after the needs and condition of their bees. It would give them a salary as a means of support instead of having to rely on the income from the bees, and therefore hindering and retarding their progress along their chosen line. It gives the young man a prominence and an established standing in the community that is a valuable asset. Teaching broadens the mind, and is conducive to the cultivation of the finer qualities that make up a good clean character.

John W. Love's article in the May 15th GLEANINGS emphasizes a very important and much neglected principle. It is frequently said that if the farmer would keep books and count the cost and returns on the various enterprises that, taken collectively, make up the business of farming, many a farmer would in five years find that his net income had doubled because he had eliminated those things that were losing money for him. Again it is asserted, and not entirely without reason, that if the average business man would run his business in the way the average farmer runs



But what can the poor inspector do?

his, he would be in the bankruptcy court inside of two years. How many beekeepers *know* that they are making a cent per pound more out of their honey than they are investing in supplies, labor, interest on the investment, depreciation, etc.? If a business appears profitable when conducted in a slipshod manner, what might it be if a little gray matter were added?

The dearth of honey last summer, followed by the filling of the brood-chambers with aster honey last fall, was the first indication of inevitable trouble. The large number of dysentery-spotted frames and weak and dead colonies loudly testify to the effect of too much aster. It seems to be pretty well established that aster is detrimental in most localities, and a practical means of circumventing it is now in order. Suppose that some of the would-be hive-inventors turn their guns in that direction.

A FIELD OF BUCKWHEAT IN EASTERN MASSACHUSETTS

BY MRS. SUSAN E. HOWARD

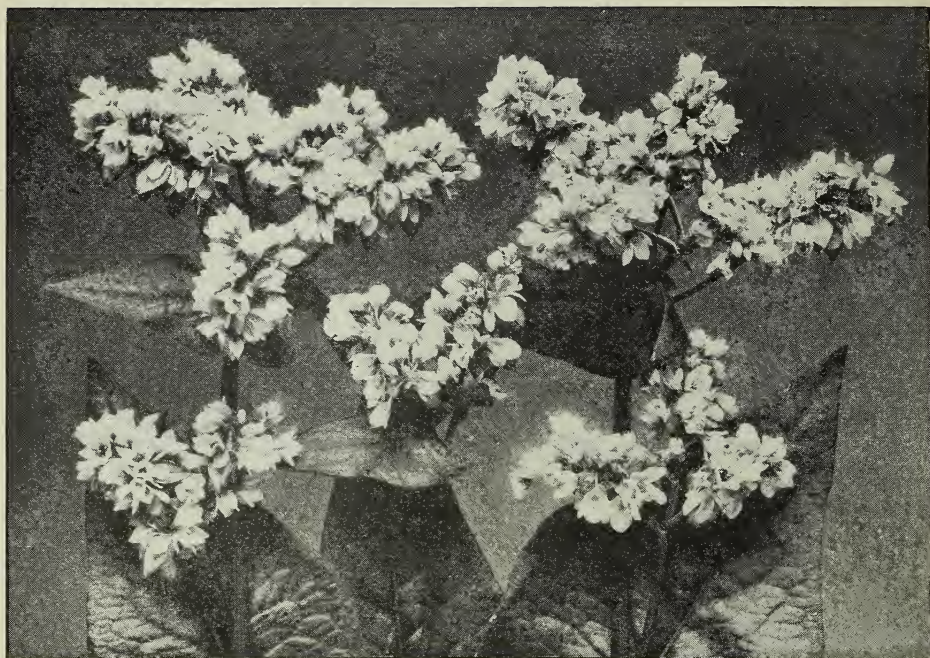
Buckwheat is not planted to any extent in eastern Massachusetts. Indeed, it is the exception to see a field of it. My object in planting was for a cover or fertilizing crop to be plowed under.

The second sowing after the first had been plowed in was allowed to mature, and straw was used to cover strawberry-beds. It made an ideal winter protection with the addition of meadow grass. This second sowing was made forty days before the date of the annual field meeting of the

Massachusetts Society of Beekeepers which was held at my apiary. As it takes about thirty-five days from sowing to blossom, it was at its best, and was a beautiful sight as it was in full bloom.

The bees work it well from early morning until about 10 A. M., and then again from 4 to 8 P. M. The morning flow was most pronounced, and the field was alive with bees.

Whether there is a cessation of nectar from the buckwheat during the rest of the



Honey for the bees, seed for harvest, fertilizer for the ground—Luckywheat should be planted more extensively.

day, I am unable to state. Perhaps there was a flow more alluring during the intervening hours.

As I raise bees rather than honey, it served an admirable purpose in that it stimulated brood-rearing during a season when nectar was scarce. To recapitulate, it served to keep the land mellow, kept down weed growth, and conserved the moisture, also supplying humus if plowed in while green.

The blossom afforded honey to bees and afterward seed for harvest. The stalks were used as a winter cover for strawberry-beds, and, in the following spring, well disked and plowed into the ground.

I have had but one year's experience with buckwheat, and so I am unable to state its dependability as to nectar secretion, but am firmly convinced it should be planted more extensively.

Stoneham, Mass.

A MODIFIED SMOKE INTRODUCTION

BY L. R. DOCKERY

Inasmuch as there has not yet been a method of queen introduction given that is fool proof I will explain the method I have been using the past two years. In that time I have introduced about two hundred queens and have lost only one, and that loss was due to negligence. This method, in addition to being proof against the neglect just mentioned, is so practical and sure that it will commend itself to the specialist. It is practicable under all conditions. I have introduced queens to colonies with fertile

workers, those with cells almost ready to hatch, and those just made queenless, with equal success.

The queen should be kept from food and other bees for about thirty minutes. She should never be taken in the hands, but caught or caged by placing the cage over her while on the comb. If she is received through the mails, change her to another cage without any bees or food. To introduce her, give a little smoke at the entrance, then take off the cover and smoke them again. Take three combs from the brood-

nest, and shake or brush all the bees in front of the hive. As the combs are freed of bees, return them to the hive.

When this is done, place the cover on the hive. As the bees pass in at the entrance release the queen among them; and as she

passes in at the entrance give her a little smoke, and she is introduced. If the colony has been queenless some time, or if there is robbing going on, the colony should not be disturbed for forty-eight hours.

Winton, Cal.

A HIVELESS COLONY

BY ANDREW CARMAN

The accompanying photograph is one of a freak scrub of wild honey. I have found and cut 163 bee-trees, having hunted bees ever since I was old enough, and I have never before found a comb similar to the one here shown.

Last fall I followed bees to a large sound hemlock - tree about eighty feet high and two feet in diameter at the stump. The tree was growing at the top of the gorge below the Devasego Falls in the Schoharie Creek in Schoharie County, N. Y. While watching the bees trying to find the hole in the trunk where they entered, I discovered the comb shown in the photograph hanging to a limb about fifty feet from the ground. The only protection from the weather the bees enjoyed was the limbs of the hemlock above the comb and the surrounding trees which acted as a windbreak.

The tree was climbed with difficulty, the bees subdued, the limb holding the comb sawed off, and carefully lowered to the



Too careless to look further, the bees had settled on a limb.

ground by means of a light rope.

The comb, deducting for the estimated weight of the limb, weighed forty-four pounds.

Evidently the bees, having swarmed on the limb, began work immediately, not troubling themselves to look further for a more sheltered harbor inside a hollow tree.

Plattsville, N. Y.

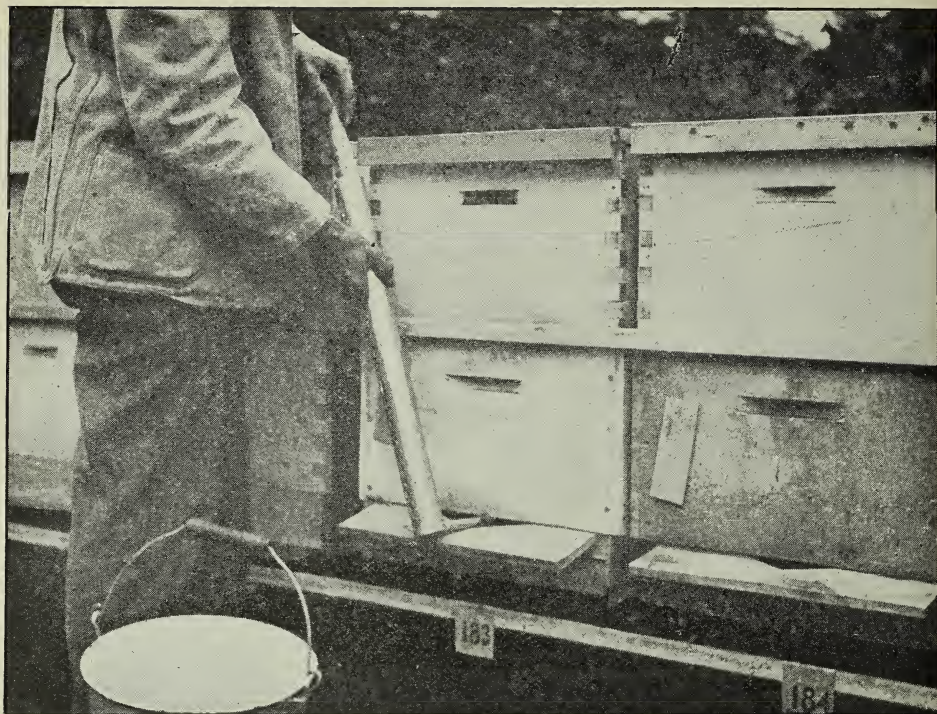
FEEDING BEES IN LESS THAN HALF A MINUTE

BY WILLIAM BEUCUS

In the issue for Oct. 15, 1914, appeared an article, illustrating my new combination hive-bottom and feeder. The spring of 1915 was very cold and rainy, and the new feeders came in very handy. They far excel anything I have tried so far—nothing to hunt up, nothing to put away. On any day, too cold or rainy for the bees to fly, just fill a pail with warm feed and squirt

some in at the entrances. The pans catch it so there is no waste. It is not necessary to move any pieces nor even to stoop much. One hundred colonies can be fed in an hour—in fact, 116 were fed in 45 minutes—less than half a minute to a colony. It's more fun than to go to a good show to feed the bees on a cold raw day.

How different it was a few years ago when



Just a jiffy to squirt in the feed.

the spring happened to be bad and the bees ran short of stores. Everything was pressed into service. And then, too, we even filled combs with feed and had to open hives to get them where the bees could get at them. These are the experiences which make one disgusted with beekeeping. It is simply unpreparedness, failure to look into the future and get ready for contingencies. But with foresight, with preparations for unfavorable conditions made, what was before painful is changed to positive fun. In the future, every additional colony of mine will have as a part of its equipment one of these feeders.

Here is another point to consider. Suppose I want to raise some queens, and the honey-flow at the time is lacking or intermittent. I just step out and squirt some feed in at the entrance. It takes only a minute because everything is always ready.

We are continually at war with surrounding forces—forces which are always endeavoring to overthrow the balance and bring death. In the long run, the overthrow is accomplished; but in the span of days allotted to each, success or failure results from anticipating what conditions are to come and making preparations to meet them.

The year 1914 was a complete failure in apiculture so far as surplus honey was concerned, and one of my neighbors told me that he remembered a year when not only had there been no surplus but no honey for wintering. When such a year comes, what a satisfaction it will be to know that every colony is supplied with an equipment to meet the opposing changes. Keeping up brood-rearing in the fall and feeding up for winter can be accomplished with very little labor.

After reading the editorial entitled "How to Feed Bees on the Verge of Starvation, without a Feeder, and Do it with a Minimum of Labor," GLEANINGS for July 1, I felt gratified to think that my bees are always ready for feeding. I have many times fed bees just as described by the editor, and doubtless every other professional beekeeper has also. To me it has always been a disagreeable task to open a hive in cold weather—particularly a hive containing a strong colony. The bees stick to the cover, get into the grass, and an occasional bee alights on my person, crawls under my coat, up my pants, or even under my veil. Under such circumstances I have done considerable muttering in my beard.

Cadott, Wis.

WEATHER, AND LOTS OF IT

BY A. E. BERGQUIST

It has not been all sunshine for beekeepers around here this year. April opened nice and warm; but all of May and up to the present, June 14, we have had unfavorable weather, cold and rainy. The picture shows how the hives were covered up with ice and snow at the cold spell we had May 16, 17, 18.

The clover here was badly winter-killed, so we shall have to look forward to the basswood for a crop of honey this season.

Lindstrom, Minn.

[This picture is interesting at this time in that it shows some of the extremes of



May 18 in Minnesota.

temperatures that the bees may have to withstand in the late spring. Good preparation in the fall is a good form of insurance.—Ed.]

A PRIMEVAL HONEY-EXTRACTOR

BY P. C. CHADWICK

It recently came to my notice that Riverside County, Cal., has one of the oldest extractors in the nation, and, without doubt, the oldest in the West. The matter of the origin of this machine has a history well worth a place in the annals of inventions—not that there were no other extractors in the market at the time of the manufacturing of this one, for there were a few. But the inventor, Captain Jeremiah Sanders, 87 years of age, had no knowledge of there being an all-metal extractor in existence at the time he conceived the idea of having this one made.

It was made in San Diego, in February, 1875, by a plumber, W. A. Begole, under the directions of Capt. Sanders. In the accompanying illustration may be seen something of the shape and substantial work in this machine.

I had a visit with Capt. Sanders in December, and a pleasant one indeed. Although a man of 87 years, blind, and a cripple for the past fourteen years, his mind is clear and his memory excellent. He took me back over the early days of California beekeeping, when he first came here and began working with bees. He told me of the wonderful crops secured in the early days—crops that Capt. Sanders thinks we

shall never see again. He was personally acquainted with both of the firm of Clark & Harbison. Capt. Sanders became interested in bees in 1867 in Johnson County, Mo., and moved to California in the early seventies, going to San Diego County to locate. He first worked for a man by the name of Mitchel, later taking up the work for himself. From San Diego County he came to Riverside County, where he followed the business for a number of years. Fourteen years ago he was attacked by a vicious bull and almost killed, though he recovered to such an extent that he has been able to go with difficulty on crutches.

The can is a very heavy galvanized iron. The cross-bar holding the gear and baskets is an exceptionally heavy casting. The can is in two parts. The upper part, holding the baskets and gearing, has a cone-shaped open bottom, and rests in the lower part, or honey receptacle, telescope style. That is to say, the upper division fits into the lower part tightly. The lower division has an opening for a faucet or plug to allow the removal of the honey from below. This arrangement does not show well in the picture, which was taken at near sundown, and it was impossible to get the light necessary to show all of the parts.



Capt. Sanders and his all-metal extractor which he designed in 1875.

Capt. Sanders has kindly loaned this machine to the A. I. Root Company, and it may be seen in the company's exhibit at the San Diego exposition. Beekeepers should be sure to see this machine when attending the fair, for it not only shows the inventive genius of Capt. Sanders, but also something which has a place in the early history of the beekeeping industry of the state. Many extractors of this type were made at San

Diego, and used in the early days in that section. The second machine was made for Mr. Clark of the firm of Clark & Harbison. While Capt. Sanders was not the first to make an all-metal extractor, he deserves a place among inventors, because of the initiative he has shown. Capt. Sanders prizes this machine very highly, as it is the only relic of his beekeeping days he has retained. Redlands, Cal.

EXPERIENCES WITH QUEENS AND THEIR INTRODUCTION

BY W. M. SMITH, B. A.

As much has been written touching on the introduction of queens by the smoke method it would seem useless to discuss it further. However, as this is the time of the year when such problems are perplexing the minds of beginners, and as I am situated in a novel position, living at the very western edge of the continent, and have been continually importing queens from the East, my experience in their introduction might be instructive, or at least interesting to others.

Some years ago when I started introducing new blood into my original native stock,

new problems stood in my way. Queens from the opposite side of the continent were, up to the year 1913, introduced by the cage plan. This worked with indifferent success, if they were introduced before the end of the honey-flow which ends in July with us. But when attempted later, in September or October—that is, after the honey-flow had entirely ceased—there was invariably a large loss running as high as 80 per cent.

When the smoke method was brought forward with such enthusiasm I naturally accepted it as a panacea for all my trou-

bles. In the summer of 1913 I received queens from several different breeders, and promptly undertook to introduce them, upon their arrival, by the smoke plan. The whole dozen which I had at this time were successfully introduced, and the greater majority were laying in two days. Consequently I hailed this as a cure for all past troubles. This was at a time when nectar was coming in quite freely. Had it been otherwise the results would have been different, as I learned later.

About a month later I received some queens and attempted to introduce them by the same method; but I was astonished to find that not more than ten per cent were accepted, due to the fact that nectar had ceased coming in.

Last fall I delayed ordering all my queens till late, and attempted to introduce them by the smoke method, but found them all later carried out to the front of the hive. I then tried the cage plan, but with no better success. Almost exasperated, and with a couple of dozen queens on my hands, I looked in vain for a solution. There was no nectar coming in, and brood in few of the colonies. I put the cages (wire down) over the brood-chambers of a couple of strong colonies, knowing that the temperature was about right for the health of the bees. About a day later I again decided to try introducing them by the smoke method. I removed the old queens one day; and the next morning early, while all was quiet, I ran in the new queens at the entrance after smoking. To my surprise practically all were accepted.

Fired with this success I immediately ordered a dozen more, as I had about that many colonies which I wished to requeen. These did not reach me until October. I now placed the cage with each queen over

the brood-chamber of the colony to which she was to be introduced, removing the old queen a day later, then introducing by the smoke method the following morning when all was quiet. All were accepted, and commenced laying, with the exception of one which died later. My experience has shown me that no method will work satisfactorily after queens have been in the mails for a week or longer until all odors foreign to the hive are first dispelled by that of some colony. Apparently it makes no difference whether the queen to be introduced is placed over the colony to which she is to be given (although this is the preferable way) or over any colony, so long as she acquires the odor common to the bee.

It should also be noted that the cage plan will not work here under the above conditions, no matter how long the queen is kept caged before being released, and that the smoke method is a perfect success.

One great trouble I have had with queens mailed across the continent is that there are *never enough attendants*. It must be borne in mind by the queen-breeders that the temperature is not the same throughout the whole journey, but drops low in coming over the mountains, even in the middle of summer, and for this reason queens mailed to this side of the Rockies should be mailed in double-width cages with from 20 to 30 attendants. If there are not enough bees in the cages to keep up the heat when passing through a cold atmosphere the queen will invariably be chilled, which will impair both her usefulness and longevity. Even if she does survive, and commences to lay, she may be superseded almost immediately. It goes without saying, that such queens are an unprofitable investment for the beekeeper. Such are the results here. Is it again a question of locality?

Dewdney, B. C.

HOW TO HANDLE COMBS AFTER EXTRACTING

BY E. S. MILES

One reason why beekeeping is interesting is that there is continually something new turning up. Many of the problems are easy. With a little thought and a little experimenting we come to the "know how." The problem indicated by the title is the one bothering me now. In order to help any one to avoid offering a way already tried, I shall describe those I have attempted. What works well with one person in one place, by the way, will sometimes not work out the same with another person in a different place. What one person would con-

sider a success, another would not be satisfied with.

In saying "after extracting," I mean after the last extracting for the season; for here this takes place in August unless we have a fall flow, which has not been frequent of late years.

I have done as follows:

1. Piled them up in the honey-house and let them stand until the next season.
2. Set them outdoors for the bees to clean up.
3. Set them back on the lighter colonies,

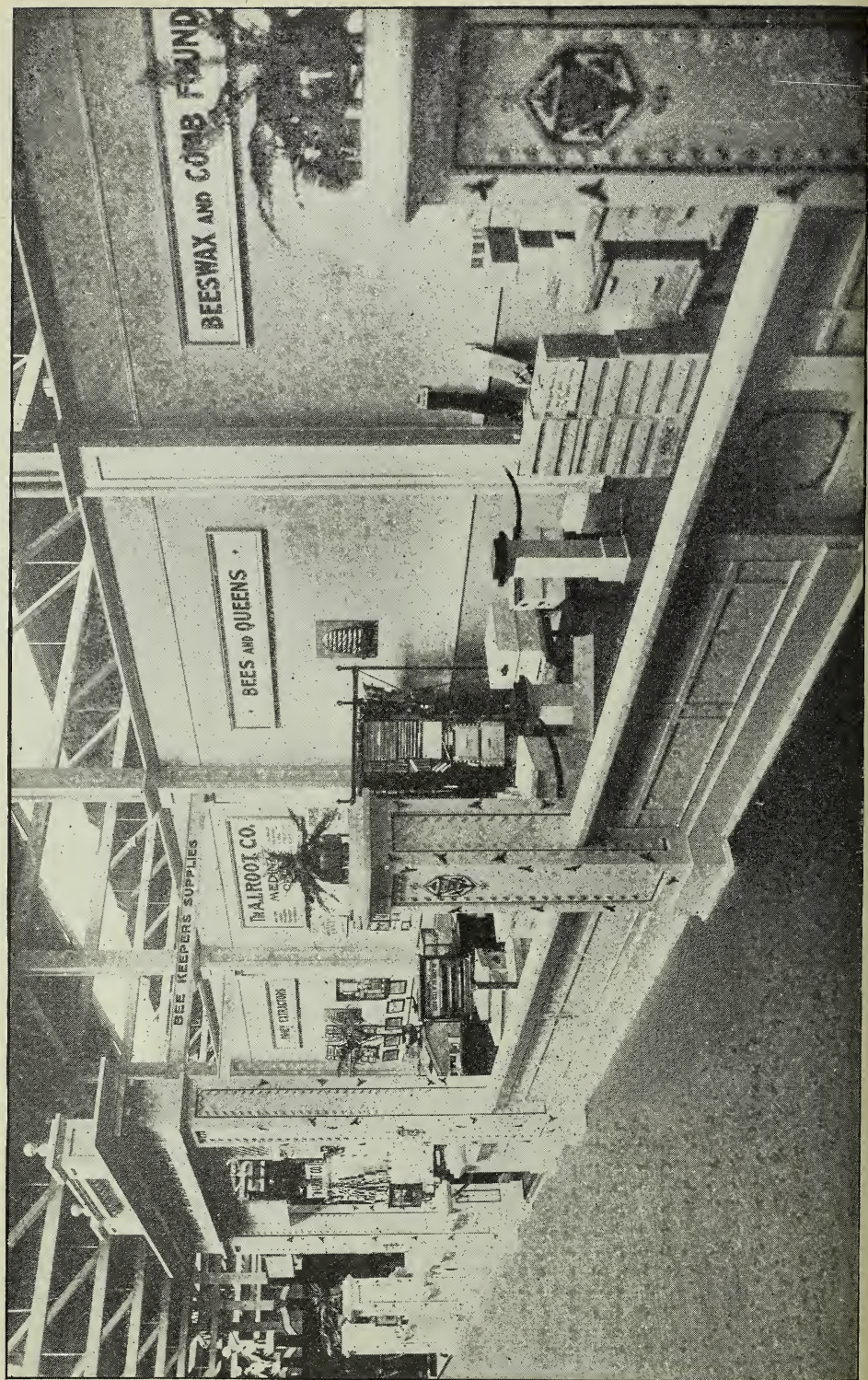


Exhibit of the A. I. Root Company, which took a grand prize at the Panama-California exposition, San Diego.



The exhibit stands at the right of the east entrance of the Varied Industries building.

with an escape-board, minus the escape, under them, piling as many supers on a hive as would safely stand up.

None of these methods are satisfactory, for the following reasons: The first is objectionable because the daubed honey granulates, and starts granulation too soon in the next year's crop. Worse yet, if there is comb that has contained brood it is quite likely to be ruined by the wax-moth larvæ.

The second method is objectionable because my bees gather on the combs in swarms, and fight over them, killing large numbers of bees. They do not learn to go to their hives at night, but quite frequently stay in large numbers on the combs. The only way I can get the combs in is to do so at night, and then I lose lots of bees. I have tried putting the combs out a little before night, on the theory that the bees would just about get them licked up by dark. Then I could get them in before the moths got around to lay a fresh batch of eggs.

But this will not work with my bees. They start fighting, and the supers are full of bees at dark. I think that, by leaving the combs till they are completely dry, the bees would leave them at evening. However, I do not like the idea of combs exposed to the weather and moths, nor do I care to lose many bees or have so much of an uproar around the place.

The third method is the one I have used mostly, mainly because not so many bees are lost, and because in that way the honey from the combs is given to the colonies needing it. But it has the objection of requiring too much labor, especially night work, and also that it is not feasible on a large scale unless a large number of strong colonies, light of stores, are near by.

My method in this is to put an escape-board, without the escape, on each strong light colony that we have combs for, and, if the weather is not too hot, to contract the entrance considerably. In any case I make the entrance as small as the weather will permit, doing this any time before I wish to put on the combs. Of course I lay the cover on over the escape-board. Then when I wish to put on the combs I start as soon as it is too dark for the bees to fly. Laying off a cover from a hive. I go to the honey-house and take as many supers of empty combs as I can carry, and set on the hive. I proceed thus until I have as many supers on as I wish, putting as many to the hive as will stand up safely, and being careful to have all covers fit down bee-tight. I put on an 8 or 10 lb. stone, or two or three bricks, to insure the covers staying on.

By morning the bees will have the combs pretty well licked up, and will have recovered from their excitement enough to keep out robbers.

But to get the combs off is another job requiring about as much time and labor. If one has an assistant he goes with the escapes, and a smoker well lit up, and one lifts the pile of empty supers enough at one end for the other to force in several good puffs of smoke and insert an escape in the escape-board. Then after a day or two the dry combs may be taken back to the honey-house. If robbers are bad and the weather warm, this has to be done after dark also.

None of these methods protect old brood-combs from the moth-larvæ. If one uses new combs—that is, combs that never contained brood—the moth will not damage them here, according to my experience. But in different manipulations I frequently have a set of old brood-combs that it is desirable to fill and extract. Every fall finds me with several on hand. They are valuable; yet how to care for them, without too much time and labor, is a problem I have not been able to solve.

Put these back with the bees till cool weather. This would protect the comb, but

is objectionable here for this reason: We often have about enough flow after bass-wood and clover to fill a colony up in good shape for winter if they are crowded down to one set of combs as early in the fall as possible without swarming troubles. The honey so gathered is, with few exceptions, the very best of winter stores. But by giving more ready-built combs, and especially old brood-combs, the bees will continue to breed a little heavier, using up a part of what would otherwise be winter stores, and scattering the rest through the combs in such a way that no one set would contain enough for winter.

It is probable that, by leaving these colonies till late in the fall, they would move all the honey into the top story. This is not practicable with a large number of colonies to care for, as many colonies in some seasons would be found light too late for best results in feeding.

I have gone thus into detail hoping to open up a subject that I wish very much to get more light upon.

Dunlap, Iowa.

THE FOLLY OF TOO RAPID AN INCREASE

BY "OBSERVER"

Did it ever make you sore because the bees were so strong in the spring at clipping time that you could hardly find the queen?

When one does not wish to unpack colonies until nearly time for the honey-flow, a pretty fair idea of inside conditions can be determined by noting the relative numbers of spring-hatched bees and "pioneers" that are going in and out at the entrance, and noting whether they are carrying in pollen or not.

I wonder how many beekeepers are observing "dandelion day." The dandelion usually yields but little surplus, but yields a wonderful tonic of nectar and pollen that makes the weaklings strong.

Some good work for the beekeepers might be done by the forestry departments of our state colleges and experiment stations by advocating the planting of nectar-producing trees for shade purposes.

The following is a true story, and worthy of consideration by all beginners. In the spring of 1913 a husband and wife, both of more than average intelligence and ability, secured a couple of stands of bees. They determined to increase as much as possible until they would have sufficient numbers to yield a considerable return. By June, 1914,

they had 38 strong nuclei. These were formed by dividing the colonies as early as possible. Those which were divided in the spring were the product of a division the previous season. The appearance of an increasing number of dead larvæ in the hives finally alarmed the enthusiasts so much that a sample comb was sent to Dr. Phillips, who pronounced it American foul brood. The tin-tube method of treatment was then used, with the result that only two were cured. This spring there are left three colonies and fifteen nuclei. By good fortune one colony is strong, and free from disease. The rest are diseased and weak. Over \$300 has thus far been spent on the venture. As Aesop says: Moral.

The division method of increase will surely increase the number of cases of foul brood if it is present in the original colony.

If in doubt, practice natural swarming, hiving the swarm on $\frac{1}{4}$ -inch starters. Don't try the tin-tube method of transferring on a weak colony. Even success in other lines of business, and great natural ability, must be supplemented by real bee experience in building up a profitable apiary. Don't hurry the business. Starting with one colony this spring, and doubling the number each season, granting that all increase lives,



A heavy jacket was built around the tank.

at the end of the ninth season the product would be 512 colonies. That ought to be fast enough increase to satisfy almost any beginner.

Use the Division of Apiculture, U. S.

Department of Agriculture, frequently, in determining the cause of death of larvæ. If your state has an inspector, use him—that's what he is for.

Madison, Ind.

MELTING AN 8500-POUND TANK OF CANDIED HONEY

BY E. F. ATWATER

As our crop last year was light we bought several lots of honey to supply our demand, and among these lots was a tank containing 8500 pounds of alfalfa and clover honey, candied in one solid, cold, stubborn mass. This honey was to have been delivered to our shop, where we have our melting and bottling plant, but was found to be so hard that it was considered unprofitable to try to dig it from the tank.

Finally, 1 x 4 x 4-ft. boards were made into a wall around the tank, about four inches from it; then, six inches away, another wall was built of the same material, and the space between the walls was filled with dirt, leaving the air space around the tank. Then canvas was laid on top of the wall and against the tank, and covered with dirt.

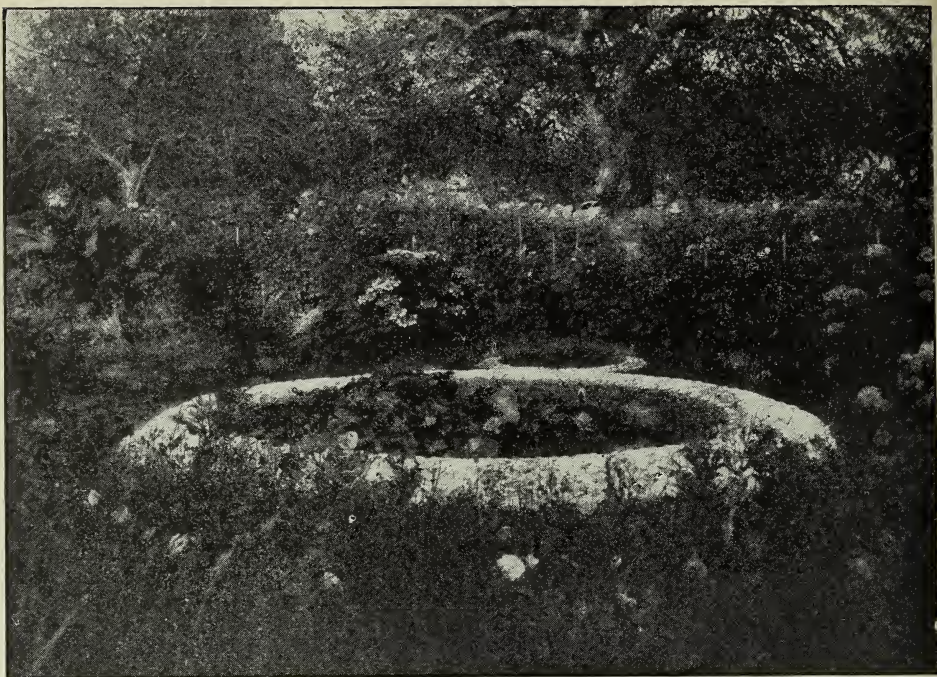
The honey-gate was removed and a pipe four feet long was screwed on to the end of

this pipe. Around the tank, before building the wall, half-inch pipe was bent, with openings at intervals, and a pipe extending out to receive the steam. The tank rested on pieces of inch boards, not too close together, so steam could get beneath. When all was ready a traction engine was hired, and steam was shot into the air-space around and beneath the tank.

The honey around the sides soon melted, and the chunk settled a little. Two or three men were kept busy chopping at the chunk with spades. The small pieces slid down the sides and were soon melted. The honey was allowed to accumulate, for by stirring there was no overheating.

Occasionally a few hundred pounds were drawn off, strained, and canned. In about 1½ days the entire lot was melted without injury.

Meridian, Idaho.



The bees drink on the lily pads.

A LILY-POND FOR A WATERING-PLACE

BY REV. J. N. LEWIS

A lily-pond which almost any one can make is an ideal watering-place for bees, as well as being very ornamental. The birds utilize it for a drinking-fountain and bathing-pool.

This miniature pond as shown in the picture cost for material exactly \$2.00, and the work I did myself. The only expense was for four bags of Portland cement at fifty cents each. I simply dug out an excavation the size and shape I wanted my pond, and plastered it with two coats of cement, letting the first coat dry hard before applying the second. The rim I covered with clam-shells, which can be had for the gathering in this part of the state. If shells are not to be had, small pebbles can be used. When all became dry and hard I

put in six inches of rich loam with coarse sand on top, and planted pond-lily roots, which grow and bloom from May to September year after year. The pond shown in the picture I made six years ago, and about all the attention it needs is covering in winter to protect from freezing, and supplying with water to replace evaporation. Usually the rainfall keeps it full. If not I have a well near at hand, and it is a small matter to supply all that is needed.

The lily pads make perfect floats for the bees, and they are on them by hundreds all through the summer season. It is situated about twenty feet from the apiary, and the bees have a constant supply of water near at hand.

North Westport, Mass.

THE HOME-BUILT TRACTOR

BY XENO W. PUTNAM

Every tractor, home or factory built, consists of three general groups—the power plant, or engine, the tractive element, or drive-wheels, and the transmission, which diverts the energy of the one into the other.

The last named is made up of several sub-groups which depend for their arrangement largely upon the engine used and the man who uses it.

Generally the best engine for the home-

made tractor is the one that the builder has at hand. If it runs steadily, without overheating; if it is handily adjusted and repaired, and easily controlled, so much the better. Most of the faults of the engine work their vengeance either upon the operator or the rest of the machinery, though they may not actually disqualify it for tractor purposes. Some of them may be absorbed in the transmission, if the builder is skillful, although probably the transmission will gain nothing because of the extra duty. An automobile engine, for instance, making 1000 revolutions per minute at the crank-shaft can be reduced to about the normal speed of 25 in the drive-wheels through the transmission gearing; but part of the latter will have to turn pretty fast, and will wear out that much quicker; also an extra shaft (with its attendant loss through friction) will probably be necessary in order to bring the speed down to the required point.

power is impaired because of the weight removed from the drivers. Three-fifths of the weight is needed there, to hold the grouters (or cleats across the face of the drivers) snugly in the ground. This balancing of the parts can usually be best accomplished by placing the engine near the rear axle as in Fig. 1, the transmission in front of it, and the water-tank still further ahead, its contents in some measure regulated by the weight required on the front wheels. It is also best not to set the engine back directly over the axle, as every jar occasioned by rough and stony ground is communicated to it without any possibility of the sills absorbing part of the shock. In fastening down a tractor engine, special care is necessary.

If the crank-shaft is not exactly parallel with the rear axle, some wheel or shaft in the transmission train will have to be a trifle out of line with something else in order to correct the fault. If a part of the

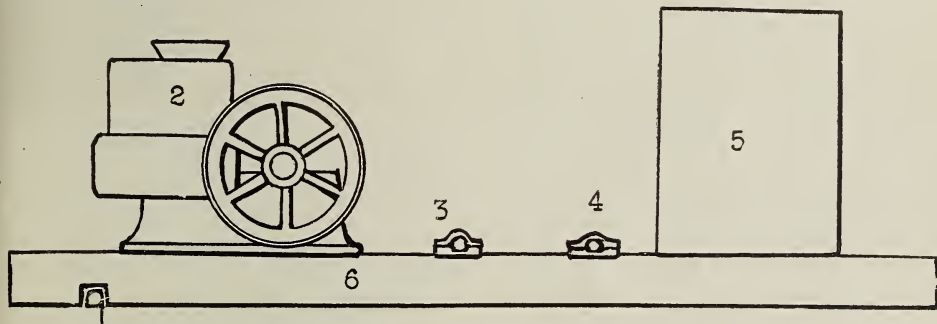


FIG. 1.—Arranging the parts of a well-balanced tractor.
1. Rear axle. 2. Engine. 3. Countershaft bearing. 4. Differential-shaft bearing.
5. Water-tank. 6. Tractor sill.

It is better, if possible, to set the engine with the crank-shaft parallel to the drive-wheel axle, then there will be no bevel gearing interposed, and no end-thrust to contend with. Set the engine just in front of the rear axle—the closer the better. It is then within easy reach of the operator's platform, and the tractor balances well. About two-fifths of the weight of the tractor should come upon the front wheels in order to hold them firmly enough to the ground for guiding purposes. If much less than two-fifths, the tractor may work all right when running empty on the level, and the front truck lift clear of the ground, or nearly so, when traveling up hill or on a heavy pull. Of course it would then be impossible to control the tractor. But if the engine is placed too far forward the tractor will steer unnecessarily hard because of the heavy weight on the steering-wheels, and at the same time the tractive

drive is chain transmission a little leeway is possible, though it is best to have even chain-and-sprocket members all perfectly aligned. If gear-wheels entirely are used, the alignment cannot be too carefully made.

After the engine is once set it must be so securely bolted that it cannot by any possibility shift its position in relation to the axle or any of the transmission bearings. Ordinary care may not be enough, for the jar and vibration are far greater than in the case of a stationary engine. Just how the fastening is to be done depends upon the bolt-holes and the engine-bed, but it must be done thoroughly. If there is any chance to pass sub-sills across the top of the engine-sills, and then bolt these to the side sills of the tractor, it should by all means be done. Half-inch bolts are usually about right for light tractor work, and it is safest to use a washer at each end, and two nuts instead of one for

holding each bolt. *Never use nails in fastening a tractor together.* They are certain to loosen under the continuous vibration.

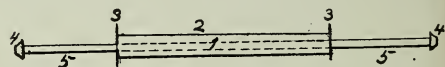
For a one to three or four horse-power engine, tractor wheels taken from a worn-out mowing-machine will answer nicely. They are strong enough to stand the strain, have grousers ready cast upon their face, and will give very fair tractive power. The standard mowing-machine wheels weigh between 60 and 80 pounds, are 30 inches high, and have about a four-inch face. Any junk-dealer will be glad to furnish good mower-wheels at a cent a pound, which is three times or more what he pays for them to the farmer owner.

If a heavier tractor is wanted, binder wheels are the thing. They will answer with engines up to twelve or even fifteen horse power, and of course give very much greater tractive force, both on account of their greater weight and because of their wider face. Cast binder-wheels weigh around 165 pounds each, and the standard wheel is 36 inches high with nine-inch face. Junk-dealers supply them for about the same as mower-wheels, and get them for the same of farmers. As one binder has but one drive-wheel it is necessary, when purchasing them, to see that they are alike in size.

Approximately all binder and mower wheels are bored for the same size of axle, $1\frac{1}{2}$ -inch cold-rolled steel being used. Some binder wheels are a sixteenth to an eighth inch smaller; then the shaft has to be turned or filed down to the wheel bore. If filed, the stock must be removed from all sides alike, and the shaft kept true. It is a good plan to keep the shaft revolving slowly (by hand) while filing. Cut first with a coarse file or rasp, then follow with a medium coarse mill-file, about 12-inch, using both in a diagonal sweep across the shaft and use the opposite diagonal for each of the two cuttings. Finish with a fine light file held at right angles to the shaft, and so filing square around it. This will put a smooth bright polish upon the metal, which may be further trued up with fine emery dust upon a cloth when all the surplus stock has been filed away.

If more than a ten-horse-power engine is to be used, or if that is a heavy one, it is best to measure off at each end of the shaft the length of its own wheel hub plus the cap and room for about four washers; then cut a length of $1\frac{1}{2}$ -inch water-pipe to cover just the space between the two wheel-spaces. A pipe of this size cut to 43-inch length cost the writer 52 cts. recently, but should be had for less money. Drive the rear axle

through this until the pipe is in the center as in Fig. 2. Follow with two wrought washers at each end, then slip on the binder-wheels, two more washers, and the regular mowing-machine-wheel cap with cotter-pin dropped into place, and the rear axle.



the tractive member, is completed. As the axle itself is easily obtained from an old mowing-machine, the holes are pretty certain to be already cut for the cotter-pins. Junk-dealers will furnish mower-axes of various lengths at one cent per pound or less, and $1\frac{1}{2}$ -inch shafting of this sort weighs about six pounds to the foot. Usually a five-foot shaft is long enough, but that depends upon the size of the engine.

It is assumed that the wheels, whether mower or binder, have the sprocket or gear wheel still attached to them—this, of course, being turned to the inside in slipping on the wheel. Most binders are now run by chain and sprocket, and a good many mowers by gear. Sprocket-drive binder-wheels are the best, because, when chains are used in the tractor drive, more play is allowable, and a slight departure from alignment may be taken care of by the chains. In excessively rough ground, too, there is less tendency to cramp the transmission mechanism if one of the links connecting the engine with the ground-wheels is by means of sprockets and chains.

In the next paper, working details will be given for the transmission machinery, the differential, clutch, countershaft, and reversing appliances, etc., within which the real work of the home-tractor builder makes its appearance.

Harmonsburg, Pa.

[This is the second of a series of three articles by Mr. Putnam, entitled *The Home-built Tractor*. The third will appear in an early number.—Ed.]

Combine Simmins and Caging Methods

We have all, perhaps, heard of the man who boasted that, by the use of a certain make of stove, he was saving half his fuel, and was asked by a wag why he didn't buy another stove and save it all.

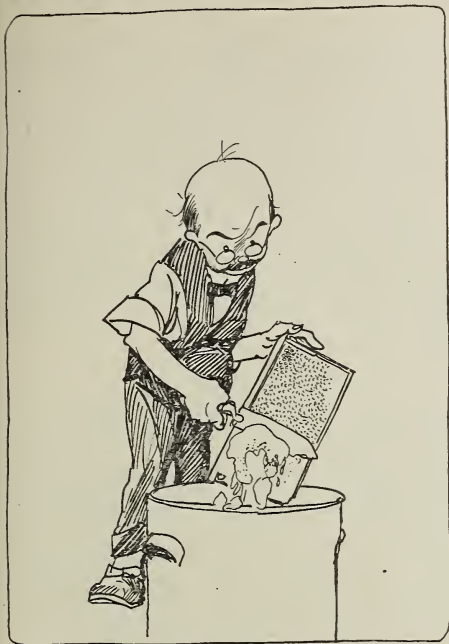
After reading J. T. Todd's article on the Simmins method of queen introduction, page 581, July 15, and editorial remarks, I am constrained to ask, "Why not combine the Simmins with the time-honored caging method?"

Case the queen the usual time in the hive to which she is to be introduced, and take her out for her thirty-minutes' fast. During this time the hive will become quiet. Then introduce by the Simmins plan.

Asheville, N. C.

O. BROMFIELD.

Heads of Grain from Different Fields



The Backlot Buzzer

BY J. H. DONAHEY

A fellow from the city came out the other day to visit the bees. Had a fly-swatter with him. They put him out on the third strike.

Excessive Swarming in Spite of Giving Room and Enlarging the Entrances; What was the Cause?

I wish to give my experience with bees this spring, which is out of the usual order of things with me. My bees came through the winter strong in numbers but rather light in stores. Fruit bloom came on in abundance, with plenty of dandelion bloom. As I had about all the bees that I cared for I set out to keep down swarming as much as possible. I have some ten-frame hives; and as I run mostly for bulk comb honey I got full-depth supers for these and put them on early. I also gave them large entrances. Part of my eight-frame hives I treated in the same way—that is, I put on supers with full-depth frames all equipped with starters—not full sheets of foundation. But in spite of all I did, swarming began the last of May and has kept up without intermission this far in June. Now, the unusual thing is that one swarm came out, and, without settling, went into another hive containing bees in the same row. At another time a swarm came out, and, without clustering, went into a hive where I had just put a swarm that had clustered. The early swarms were large, but the late swarms have been rather small, so I have been doubling them up and putting two of them in the same hive. Is there any objection to this practice? In only one case have I found any trouble, and then I found about a pint of dead bees at the entrance after two swarms had been put together. Now, as I have written before, I am a farmer beekeeper, and keep bees largely for pleasure and because I like honey, and will not go to the trouble of practicing "shook

swarming" or looking through the hives to cut out the queen-cells. What I want to know is: Aside from these methods have I not done about all that I could do to keep down swarming? I might say that we have a good crop of white clover, but the weather has been cool and very wet for the past month, so that clover, up to date, has not yielded much. The bees have simply swarmed out, leaving the hives light in stores. So far as I can determine from an examination, not a pound of surplus has as yet been stored, and almost no foundation has been drawn out. After more or less experience with bees for more than thirty years I have never before seen the like.

Mendon, Mo., June 21.

NATHAN CLAIR.

[We can hardly understand your trouble unless it was because the conditions in your locality were decidedly favorable for swarming. A light continuous flow of nectar will stimulate swarming much more than a heavy one. You say you secured no surplus, but that there was just enough honey coming in to keep the bees in a state of excitement.

In the matter of giving extra room, you rather overdid it. You gave too much and too early. Very often bees will not enter a super with merely starters. This is a common experience in the production of *comb* honey; and it often happens in the case of extracted when frames with only starters are given. Your bees probably went right on building swarming-cells when the brood-nest was crowded. If you had put on shallow supers with drawn combs just at the time when the bees needed them, or given full sheets, it would have been better. Apparently you have a strain of bees that is inclined to swarm. If they have a preponderance of black blood, Carniolans, or Caucasians, they will swarm much more than pure leather-colored Italians. Usually, giving room not too fast and not too early will have the desired result, providing, also, the bees are pure Italians. But even then it is wise to look out for swarming-cells. These will usually force out swarms, no matter what the conditions are. Next season, or before that time, rather, we would advise Italianizing your stock; and just about as the bees begin to fill their brood-chamber, look over the combs for any indication of swarming-cells. If you have only full-depth supers, take out two or three frames of brood from below, replacing them with full sheets of foundation, and fill out the empty space in the super with empty combs or full sheets of foundation.

—ED.]

Following the Swarms

My house is situated on a site overlooking the beautiful Connecticut River at Holyoke, Mass. My yard extends back from the house about 200 feet to the brink of a deep ravine with very steep banks. I had three colonies of bees in my yard.

After dinner I was busy near the house when my attention was called to the bees by three painters who were working for me. I at once saw that I had an early swarm going off, and followed them as well as I could out of the yard and down the bank of the ravine. The foliage was so thick on the trees that I lost sight of them but could hear them humming. After a time I succeeded in seeing the cluster of bees up in a maple-tree about 70 feet above the base. The tree grew at the very bottom of the ravine.

I knew that I could not climb up to reach them, so I returned to the house and asked two of the painters, who were young fellows about 18 or 20 years old, if they would assist me. They were only too glad to have the diversion and experience.

We took down a hive filled with empty combs in

frames, a cover, a bottom, and a sheet. One young man climbed up with a handsaw hung in his suspenders, and had gloves and bee-veil on. After a hard climb he succeeded in reaching a position where he could saw the limb off, but he could not hold it. Its length and weight, with the bees, was too much, and he had to drop it. The two of us underneath received a shower of honey-drops. The few bees that reached the ground quickly joined the swarm in the air.

Soon they commenced to cluster again on a limb of a tree near by; and after waiting for them to settle, the other lad tried his luck at it but with the same result. After the second tumble they formed again on the first tree, and the first man tried again, but with no better success. Once more they were all in the air.

While we were watching them we noticed that they were alighting on the lad's hat in numbers, and soon they began to cover his hat and veil. I advised him to keep still as long as they were not angry and did not sting him, which he did. When most of them seemed to cover his head completely I told him to come down carefully and not jar them any more than necessary and I would shake him in front of the hive. After he had descended very slowly we had to lead him to the hive, since he could not see through the cluster of bees. We had him place his head on the sheet. Very soon he drew out of the hat and veil and we had the pleasure of seeing them march into the hive like a drove of sheep, and the young man did not get a sting.

While we were intent on our watching the bees enter the hive we did not give any thought to the remainder of the bees in the air until one of the men happened to look up. He exclaimed, "Well, we haven't all of them—look there!"

Sure enough, there was a cluster of good size away up high, enough to be a swarm of itself.

So the fourth climb was made, and I went to the house and secured a rope to let them down by. We were successful in this method, and had more fun in seeing them also go into the hive in orderly manner. About 6 o'clock we carried the whole outfit up to the yard. My new colony went to work the next day in earnest.

Holyoke, Mass.

CYRUS H. TABER.

What Causes the Bees to Ball their Queen Every Time the Hive is Opened

I have about thirty hives of bees, or nuclei. Last year I bought a few queens and introduced them with smoke with very good success; but when I would go to open the hive to see if they were laying, even after a week or two weeks, they would ball the queen, and oftentimes kill her if I was not very careful. I thought it was on account of the dry weather, for they used up all their honey, and some of them I lost on account of its being so dry.

This year they have been able to gather white-clover honey pretty steadily, and yet they seem to want to ball the queen—not in all of them, but in a great number, when I went to look through.

Last Saturday I smoked one hive, which covered five frames with brood and honey, and took some empty frames out in a hive-body above the one I had placed there to keep the worms out; and when I went back to get more frames they had the queen balled; and at other times, after giving them a puff or two of smoke, and lifting a frame up, they would start after the queen and ball her. I have known them to be laying, and on going through the hive the next time the queens would be gone and queen-cells started. They do not seem to want to sting me, but only the queen.

New Castle, Pa., Aug. 9.

JAY C. WHITE.

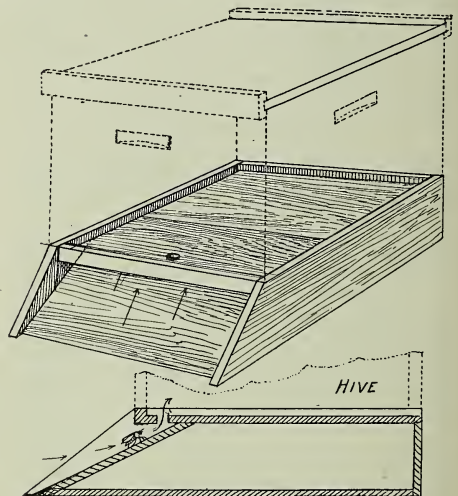
[It is not clear to us whether this trouble of balling the queen every time the hive is opened is confined to one colony, to several of them, or to all of

them. Sometimes the trouble is undoubtedly due to the queen, and at other times it is due to the peculiar temperament of the colony. We have known colonies (but the cases of them are very rare) where, several times, when the hive was opened, the bees would ball their queen. Apparently disturbance annoys them, with the result that they seem inclined to lay all the blame on the queen. But it is seldom that such balling results in the death of the queen. We have known of other cases where the queen was so timid that, no matter what colony she might be in, she would squeal when the hive was opened, and the bees would proceed to ball her. A queen that shows fright, and tries to run, is much more liable to be balled than one that acts in a perfectly natural and normal way.

If several of your stock show this balling tendency, then we should look back to a common origin—that is to say, back to some grandmother that was the mother of the queens in those several colonies. When the old bees die off the trouble should disappear.—ED.]

A New Hive-stand

I am illustrating a model of a device which I am using for a hive-stand. I think it is particularly well adapted to city apiarists. The bees seem to like it. Painted green, it has a clean and substantial appearance and gives a finished look to the hive, which is not the case with hive-stands generally.



The entrance is under the hive.

The entrance being back and under the hive, the guards are not annoyed by objects passing the hive, thereby reducing the danger of stings. As the entrance is under the hive, the stand also forms a portico; and in bad weather the bees fly right in out of the wet.

Toledo, O.

T. J. FROST.

Never Again on Aster

My bees are not in as good condition as usual or as I could wish. The situation is due largely, I believe, to aster winter stores, coupled with cold, wet, high winds in the spring. I shall not winter my bees again on such stores.

I never had hives so spotted before nor so much aster honey as last fall.

Ellwood, Ind.

E. NEILSON.

A. I. Root

OUR HOMES

Editor

And Pharaoh said, Who is the Lord, that I should obey his voice to let Israel go? I know not the Lord, neither will I let Israel go.—Exodus 5:2.

At our Thursday prayer-meeting our good pastor informed us a request had been made that our prayer-meetings between now and the Ohio election on Nov. 2 be devoted more or less toward the work of making Ohio dry. I do not know whether all denominations aside from the Congregational are requested to act in harmony with the above; but God grant that it may be so.

I presume our readers are sufficiently acquainted with the book of Exodus so that I do not need to tell the story in detail. The Israelites were groaning under the oppression and bondage put on them, and Jehovah heard their prayers and commissioned Moses to intercede for God's people. Moses was reluctant to undertake the task. He probably feared he would lose his head as soon as he made known his request, and our text is Pharaoh's reply. Like the kings of the present day—at least most of them—Pharaoh was proud and stubborn, and said, "Who is the Lord, that I should obey his voice?" Now, if kings and princes only, stood up against God's command it would be a better world than it is now. While I am loyal to our good president, and thank God almost every day that we have a Christian man at the head of our nation, I still have reason to feel that this Christian man is not permitted to have his way in some things. As I write, the whisky party still rules over us, and with its millions of ill-gotten gains defeats us again and again as Pharaoh apparently defeated Jehovah again and again. In order to make him let the people go, Moses, by God's command, turned the river Nile into blood. Then Pharaoh finally gave up and promised to submit to Moses' request. But he forgot or *ignored* his promise. Next came the plague of lice and flies, but with apparently no better results; then the plague of boils and blains; the plague of hail; the plague of locusts and of darkness. But Pharaoh was still contrary and ugly. Last, but by no means least, was the slaughter of the first-born. Then Pharaoh apparently gave up and told Moses to get out of the way with his people. I presume likely Pharaoh had some wicked counselors—some who were in league with Satan just as the United States of America has *some* such counselors just now. They told Pharaoh things would be in bad shape without the Israelites for servants. Perhaps they suggested that these troubles

in the past had all gone by, and poor foolish Pharaoh, blinded by Satan and Satan's allies, rushed to destruction, and God's people *rejoiced* over the miraculous deliverance. I hardly need say to the followers of the Lord Jesus Christ and to those who love truth, honesty, temperance, and purity, that a *Pharaoh* is standing over us right now in this twentieth century, and loading us with grievous burdens—burdens that we have brought on ourselves because we have "forsaken the living God," and are letting idols of various sorts come in between us and our heavenly Father. Punishment has come again and again in times past, and we as a people repent and reform for the moment, but soon become so busy with our idols that we drift back again.

A few years ago a great school building full of children was burned up in Cleveland, and such a reform was started in the way of better arrangements for schoolchildren in the case of fire that even away down in Bradentown we were roused up. As soon as I saw the account in the daily paper I remembered a two-story school building in sight of our Florida home; but almost before I could bring the matter up in our prayer-meeting the carpenters were at work fitting up good substantial outdoor stairways—two of them; and I believe such was the case over nearly all the United States. Much as the fathers and mothers of our land love their children, they had become stupid and forgetful. Another disaster in Chicago taught the whole wide world, almost, the folly of having the doors of public buildings swing inward, so that when a panic occurred the doors could not be opened. Just now, go where you will, you will find the doors of such buildings open outward, and there are plenty of exits also. I believe the laws of our land demand it. "Safety first" has become a watchword; and there is some dispute as to who first started it. The great Pennsylvania Railroad Company claims to have originated the idea some eighty years ago, as you will notice further on.

When the Titanic disaster occurred, I said, just as soon as we got the first particulars, that *whisky* was at the bottom of it; and we soon had facts, if you remember, to show it, but the truth was carefully suppressed and covered up. England did not relish the idea of having it go abroad that her partiality for beer or strong intoxicants lay at the bottom. I believe a careful investigation has been made, and the entire

passenger-carrying vessels of the great ocean have been overhauled and looked into better than ever before. I have not learned yet, however, that England has made any such law or rule as Secretary Daniels has at the head of our navy.

And now we come down to the Eastland. I said as before, as soon as I got the particulars, that it was *Chicago beer*, and the *Chicago* fashion of having it on board our *excursion steamers* that was at the bottom of *this terrible disaster*; and, as with the *Titanic*, it seems our daily papers generally have been induced to keep the full truth out of sight. Our Anti-saloon League organization, however, is not afraid to let the people have the truth. See the clipping below, from the *New Republic*, published at Westerville, Ohio:

EASTLAND DISASTER REVEALS SCANDAL.

That promiscuous drinking, gambling, suggestive dancing, and general immorality was permitted on board the ill-fated Eastland and other excursion boats running out of Chicago, is the conclusion of the investigators for the Juvenile Protective Association, within the last few weeks.

The report further reads:

IMMORALITY.

Conditions bad; young couples embracing publicly; liberties taken; staterooms used frequently under suspicious circumstances; men and women of doubtful character mingle with girls for purposes which are not considered good.

Two of the engineer's force were drunk, and one passenger passed two bottles of beer to the engineer. The watch was right there and saw this, but did not interfere.

Four cases of drinking were noticed on the upper deck, two of the parties being minors (motorcyclists). Two other young fellows were intoxicated also.

The girls who did not appear to be 18 drank beer. Beer was sold in two places. There was a regular bar in the front of the hold. There was another bar in the rear of the hold. Beer was sold on the floor below the dance-floor.

Here is something more from the *Plain Dealer*:

BLAMES BEER FOR UPSET.

It wasn't the crowded condition of the Eastland that caused it to topple, and it wasn't faulty construction of the boat, according to one survivor of the disaster who has communicated with investigators. It was the falling of a three-ton refrigerator filled with beer, he argues.

"When the refrigerator upset, the boat began to list," he said to-day.

You will recall the management of the boat was severely censured, or is to be censured, for having the apartments that contain the water ballast empty—especially at a time when it was so very much needed.

From the above we see that two of the engineers were drunk when the women and children were overloading that great vessel. Very likely it was the business of *these two* to see that the ballast was safe and correct for such a time, and properly cared for.

There has been quite a little argument,

pro and con, as to whether our labor unions should vote wet or dry. May God be praised there is at least one journal—the journal that represents the blacksmiths, that is not afraid to speak out.

A LABOR JOURNAL HITS THE SALOON.

Our law-makers have legalized the whisky business (and one of the most inhuman combinations known to man is the Whisky Trust), and made our national government a partner in the business. It seems strange that, after tracing so much poverty and crime direct to the saloon, the American people do not rise *en masse* and obliterate it from the face of the earth. No one who keeps pace with the times can deny that the saloon is responsible, either directly or indirectly, for nine-tenths of this poverty and crime. No one can deny that it is whisky that has made the coward a demon who took the life of his fellow-man. No one can deny that in nearly every walk of life its baneful influence can be traced from the United States to the alms-house and the penitentiary. No well-advised trades unionist can deny that a greater part of the internal quarrels and bickerings among trades unionists have been concocted in the back rooms of saloons. The greatest curse to the labor movement has been the saloon, and it is high time that the labor leaders get together and forever divorce the trades union movement and the saloon influence.—Editorial in *Blacksmith's Journal* for December.

"GOD GIVE US MORE SUCH JUDGES."

Just of late good people have lamented the fact that we have even judges who are on the side of the wets; but, may God be praised, the judges, (at least some of them) are "coming our way." The following was sent us by Miss Minnie J. Ellet. She puts on the heading.

JOHN BARLEYCORN; A DESTROYER OF HOMES, HAS CAUSED 200,000 DIVORCES IN THE UNITED STATES IN TWO DECADES.

By William N. Gemmill, Judge of the Municipal Court of Chicago.

Booze is the mother of crime. It gives life and sustenance to slums, gambling-dens, and "pay-off joints." It nerves to his deed the homicide, the stick-up man, the burglar, the thief, and the thug. It fires the brain of the prostitute and the panderer. It feeds and inflames the passions of the weak-minded and the degenerate.

I have tried an army of 50,000 human derelicts, most of whom were booze-soaked. With faces red and bloated, with eyes dull and languid, with bodies weak and wasted, with clothing foul and ragged, this vast army is forever marching with unsteady step to the graves of the drunkard and the pauper or to the prison and workhouse.

I have looked into the tear-stained faces of a still larger army of fathers and mothers, brothers and sisters, wives and husbands, as they have pleaded for the miserable wrecks that booze has made. I have seen with this army ten thousand pale-faced, hollow-cheeked, ragged, hungry, and starving children, cursed by booze.

A BREEDER OF CRIMINALS.

I have observed that every bandit crew that goes forth to murder starts from a saloon; that every panderer has his rendezvous in a grogshop; that every den of thieves makes its victims drunk before it robs them; that every house of prostitution has its bar or is in partnership with booze; that every gambling-den either is in a saloon or sustains a close relationship with one; that the pickpocket "trust" is housed in a saloon; that the "pay-off joint"—for

the crook and the crooked policeman is in a saloon; that the professional bondsman and character witnesses for thieves and holdup men are saloonkeepers or bartenders.

Booze has caused 200,000 divorces in the United States in the last twenty years, and adds 25,000 more to this number every year. It divides more homes, fills more jails, and empties more churches than all other influences combined.

Judges, legislators, mayors, governors, and even presidents sit dumb or quail in the presence of this monster which enters millions of homes and leaves them desolate.

I have witnessed daily its ravages after it has spent its wild fury upon the helpless bodies of women and children, or after it has reaped for a night, in the public dance, its harvest of virtue, now dead forever. I have observed that the last man to be employed and the first to be discharged is the victim of booze.

Booze never built a park, a playground, a school, or a church, but is the enemy of them all.

War may be hell; but where it slays its thousands booze destroys its tens of thousands.—*Chicago Herald*.

The way in which the various railroad companies are coming out for prohibition is certainly a cause for thanking God. Below is something that, if I understand it, applies to all the railroads in the United States, or pretty nearly all of them. Read it, and thank the Lord for it when you get through.

I have before made allusion to the Pennsylvania Railroad Co. The following, which I have clipped from the circular the Pennsylvania road is sending out, ought to be given to temperance workers for their encouragement:

AS TRAINMEN SEE ALCOHOL.

(From the *Railroad Trainman*, official organ of the Brotherhood of Railroad Trainmen.)

Railroad men throughout the United States have received a document dedicated to "the well-being of the general public." It is from the pen of a "safety first" advocate. It is a New Year's pledge, circulated by the Frisco system. Summarized it is as follows:

"Alcohol: It is bad company and unsafe to be with. It throws switches wrong; it reads orders wrong; sends orders wrong. It receives orders wrong; it calls red white; it never calls white red. It makes caution orders without effect; it makes slow flags without color.

"It makes one meeting-point another. It makes wakeful men sleepy.

"It makes duties dangerous, hot boxes cold, rough journals smooth. It makes pilots and footboards deathtraps. It makes good men bad men; it makes two limbs one, and it makes widows and orphans. It is against safety. Unsafety is its name.

"Statistics show that it has killed more people than all the wars of the world since the dawn of history.

"It has been said and proven that it sank the Titanic."

THE PENNSYLVANIA RAILROAD SYSTEM; INFORMATION FOR EMPLOYEES AND THE PUBLIC.

The Pennsylvania Railroad System carried approximately 180,000,000 passengers in the year ending June 30th, and not one was killed in a train accident.

The feat of carrying about half a million passengers (on 26,195 miles of track) every day without a single serious mishap cannot be attributed to mere

good fortune.—Philadelphia, Pa., *Press*, July 13, 1915.

WHERE "SAFETY FIRST" REALLY STARTED.

Many people and railroads claim to have started the "Safety First" movement. To prove its right to this distinction the Cumberland Valley Railroad—a part of the Pennsylvania System—quotes from the Minutes of a meeting of the Board of Directors held in 1838, which said:

"The following preamble and resolution were offered by Messrs. Berlin and Watts, and agreed to, viz.:

"This Board deem it a consideration of the first importance that every possible precaution should be taken for the protection of the lives and safety of individuals traveling upon our road, and that, as a primary step to the attainment of his object, habits of intemperance should be discouraged in all persons who have any connection with conducting business of any kind upon the road. Therefore,

"Resolved, That no person shall be employed or continued in the service of the Board whose habits of intemperance, either permanent or occasional, are such as to hazard the safety of passengers upon the road or property carried upon it—and that the Board hereby charge the Chief Engineer and his assistants with the special duty of enforcing attention to this resolution."

From the above you will notice the management of this road has firmly shut down on all employees who even *occasionally* get drunk. Let us patronize the Pennsylvania whenever it is possible to do so.

Our daily papers are also coming along slowly into line with God's wishes and God's commands. We can rejoice also, and thank God, for what the leading physicians and boards of health are doing. Read the following:

Since January 1, 1915, twenty-four daily newspapers, according to the records of the Temperance Society of the Methodist Episcopal Church, have barred from their columns liquor advertisements. This is in addition to the 520 newspapers previously reported to have eliminated liquor advertising.

SALOONS PROMOTERS OF DISEASE

Indiana's Board of Health will fight the evils of alcohol. The legislature of 1889 passed a law making it unlawful "to maintain any conditions whatever which may transmit, generate, or promote disease," and gave the Board of Health full power to enforce that law.

The board is now considering closing the saloons in Indiana as "promoters of disease." That means progress, whether the attempt to close the saloons succeeds or not at this time. It will finally succeed, and each battle puts us further on the road to victory.—*New Republic*.

The suggestion in the above, that the saloons in Indiana are "promoters of disease," is almost a joke. Now, here is a clipping below that I hope may, through God's providence, get into the hands of the English people. Is it really possible that England thinks more of her beer than she does of the perpetuity of the English nation? Let her answer.

England stands before the civilized world in the position of having her affairs ruled by an interest so selfish that it prefers German success rather than lose the profits on beer and whisky.

The number of drinking-places in France is so great as to astonish Americans. Paris has a drink-

ing place for every 40 adults. In comparison with the population Paris has 11 drinking-places where Chicago has four and New York has three.

The situation in prohibition Russia is known to the reading world. The remarkable change which has come over that country is one of the wonders of the early days of the twentieth century. On the whole, the people themselves like the change, commend the Czar for his prohibition decree, and declare that so far as drink is concerned it was a happy day for Russia when the Germans declared war.

The one fact that the \$500,000,000 formerly received by the government in one year from liquor revenue is now more than balanced by the increased sums deposited in savings banks, shows that prohibition has brought prosperity and happiness to the Russian Empire, even if it did not bring peace.—*American Issue.*

My good friends, I have been giving you a lot of discouraging facts in the above. Of course there has been something encouraging, more or less, in most of them; but here is something on the other side; and may God be praised for what poor suffering Russia has done in the way of lifting the grievous burden of drink from the shoulders of her sons and daughters.

In concluding I wish to give a brief clipping from our friend Ridgeway, in his "Business Men's Corner" in the *Sunday School Times*. Read it, and see if you do not think it is a fit winding-up for this Home paper.

Every time Dick Strode's mules had to be shod they always had to be thrown and banged around and tied up. They never learned who were their friends, and were always trying to "kick the stuff in" out of things," as Jake the blacksmith used to say. This is the way God sometimes has to "shoe" his mulish children.

Is it not true, dear friends, that God in his loving kindness has really been obliged to treat us or to treat humanity as Jake the blacksmith treated the mules? We have noted how He dealt with Pharaoh, and how stubborn and contrary the king was when God's only purpose was to let his chosen people go out of Egypt and into the promised land—a land that was literally "flowing with milk and honey." Good men and good women have no doubt protested because the people who are responsible did not make better provision to save the lives of comparatively helpless schoolchildren; and finally this awful punishment—an object lesson that the whole wide world will remember—was permitted to come first to wake us up.

Just now I am rejoicing at a movement that is being made to take care of the babies; and the great city of New York just now stands at the head. They have taken such care and pains to provide pure milk, and competent doctors and nurses to instruct the mothers, that the death-rate among the babies is less than in any other

city in the land. Ever since the time of Noah, prophets and preachers have been warning us against the consequences of strong drink; but that blacksmith's journal says our law-makers have legalized the whisky business, and caused the most inhuman combination known to man—the whisky trust—and made our national Government a partner to it. Our kind and loving heavenly Father has sent us disaster after disaster, and yet our nation is *still* a partner to this hellish business, and, at least to a great extent, is saying to the voters of Ohio and to the voters of the United States, and, I fear, to the voters of a great part of the world, "Who is the Lord, that I should obey his voice?"

As a fitting closing to this matter we submit the following from Miss Ellet:

If Christian Ohio awakes, and prays for victory, and works for votes we'll win. We can't do it without God, and he will not do it without our best efforts. When it's true in Ohio, that "they that publish the tidings are a great host," old Demon Rum will run down a steep place and be drowned in the sea of his own iniquity. "This is the victory that overcometh the world, even our faith." Casting out demons cometh only by prayer and fasting—sacrifice. MINNIE J. ELLET.

Rt. 21, East Akron, O., Aug. 21.

"BAMBOOZLED BY BOOZE."

I have several times of late thanked the Lord for our splendid farm papers, and especially for the fact that they stand almost all, if not quite without exception, for righteousness, temperance, and purity. Just now I am thanking the Lord for the periodical called *Successful Farming*, published by the Successful Farming Publishing Co., Des Moines, Ia. This periodical is in its fourteenth volume, and I am thanking the Lord *again* that it has more than 700,000 subscribers. Do you want to know why? Well, it is because of an article in its issue for March, entitled "Bamboozled by Booze." This article was compiled and written by a son of our long-time friend and poet, Eugene Secor. It is the best summing-up I have ever come across of the ridiculous and shameful plea the liquorites are putting out, that the whisky business helps to pay our taxes. The figures and conclusions are such that there is no getting around it.

Here is an editorial in the same issue that sums up pretty well the article.

WEIGHED AND FOUND WANTING.

The liquor business has been weighed in the balance and found wanting. This is no new discovery on the editor's part; but after putting in one pan of the balance the annual drink bill of almost three billion dollars, one has to put in the other pan such an enormous quantity of good, wholesome, and useful things to balance the scales that every one will agree to the old, old fact that the liquor business doesn't pay.

But you will be told all about it—or as much as you can probably comprehend at one reading—in another article which appears on page 9 of this issue. It is real interesting work—weighing 2,128,452,226 gallons of booze. Whether you are a tippler or a teetotaler you will surely read it with amazement and profit. It makes your tax problems look like thirty cents! Think of it—a hundred and ten thousand drunkards die every year. And we put up a hundred and ten thousand boys every year to fill their places. Would you rather sell two per cent of your grain—that amount goes into the making of booze—or push one hundred and ten thousand boys over the cliff into a drunkard's grave?

Read "Bamboozled by Booze" and learn how you cannot only save those boys but sell your two per cent of grain too. This is business—not wishy-washy sentiment.

Just think of it, friends—and it is really true—we as a nation are actually "pushing 110,000 boys every year over the pit into drunkards' graves," with the absurd and ridiculous notion in our mind that the money we get for so doing helps us to pay taxes or makes our taxes lighter. "What shall it profit a man if he gain the whole world and lose his own soul?"

Later.—Since the above was put in type we have received the following letter:

Dear Mr. Root:—My father told me that you were pleased with my article on "Don't be Bamboozled by Booze," which appeared in *Successful Farming*. There were so many calls for this that we reproduced it in pamphlet form, one of which I am enclosing. I shall be glad to have you use this in any way that will help you in your state fight.

SUCCESSFUL FARMING,

ALSON SECOR, Editor.

Des Moines, Iowa, August 18.

The entire article equals about three pages of GLEANINGS, and may be had of the Successful Farming Publishing Co., Des Moines, Ia., at 35 cents per 100.

WHISKY AS A MEDICINE.

May the Lord be praised that the day is so rapidly going by when whisky is considered a remedy for snake-bites, or any other kind of "bite," for that matter. Our most intelligent physicians have been for some time past coming to the conclusion that whisky, brandy, and all other intoxicants are not only of no real value as a remedy, but they say "the remedy is worse than the disease." We clip the following from *The New Republic*:

DR. WILEY'S FINAL VICTORY.

At the present time, the publication committee is engaged in the regular decennial revision of the Pharmacopœia, and Dr. Harvey W. Wiley is the chairman of the revision committee. On the committee are 51 representatives of the medical societies and medical colleges of the United States. The surgeon-General of the Army, the Surgeon-General of the Navy, and the Surgeon-General of the Marine Hospital Service, are ex-officio members of the convention, but not necessarily members of the publishing committee having the work of revision directly in charge.

When this committee came down to "spiritus frumentii," the technical name for whisky, there

was a great row. The admirers of President Taft and followers of the rectified-whisky crowd were determined to revise the historic formula of the Pharmacopœia so as to conform to the decision of President Taft, and recognize almost any old thing as whisky that would bring the drunk and bring it quick.

Against this idea, Dr. Wiley and his supporters stood like a wall for the standard whisky that had been the standard for nearly a century.

The contention waxed fast and furious among the dignitaries until finally they reached the conclusion that whisky is not a much used medicine anyhow, and they might as well dump it out of the Pharmacopœia entirely. They finally agreed upon this, and both whisky and brandy will not appear in the forthcoming National Pharmacopœia.

"We don't use whisky as a medicine anyhow, and there is no more use of fixing a standard for whisky than there is fixing a standard for garbage," declared one of the wise men.

SHALL WE KEEP ON VOTING IN "THE SAME OLD WAY"?

The following clipping, source unknown, was mailed us by a friend of GLEANINGS. What do you think about it?

Stephen Lukovitch, of New York, went home drunk and cut his three-year-old son Louis seventy times, making him the worst-mutilated lad in the world. The child will recover, but will be disfigured for life. You shudder at the thought; but did it ever occur to you that you vote to make possible just such outrages as this when you vote to permit intoxicating liquors to be sold where you live? Felonious assault, murder, and practically every other crime, can be traced to the door of intoxicating liquor, and this will be true as long as the stuff is permitted to be sold.

RAISING THE BANNER OF TEMPERANCE, AND HOW THEY DID IT.

We have fought the wicked booze business to the last ditch, and have won—not by a very great margin, but by enough to serve all practicable purposes. We now pride ourselves as being among the first states to raise the banner of temperance, not merely because it is an achievement to do the right thing, but because it is an achievement to do the right thing when faced by huge unfair obstacles such as confronted us.

The liquor league this year realized that they were losing power, and must regain a footing by any means whatsoever were they to hold their own in the coming election; so they were forced to resort to deception, for Fairness turned her back on them. They posted unfair comparisons of every description between "dry" and "wet" states, some of which were so disgustingly simple as to make one wonder how people of intelligence could be swayed by such argument. The bartenders circulated false statements regarding the articles of the prohibition or initiative measure, thus robbing us of many votes, and, above all, the anti-prohibitionists went about destroying our literature and posters.

Notwithstanding all of this, we defeated them. A number of high-school boys volunteered to carry prohibition signs in front of the polling-places, and others distributed "dry" literature, so that an excellent showing was made. This city of Pasco, long notorious for her vulgarity, and known far and near as the home of the vices, rallied its best citizens and voted "dry" by a good majority. This was a surprise to thousands, and was brought about only by church organizations and the determined efforts put forth by a number of our prominent men, notably Prof. E. M. Dorsey, principal of the high school.

We are sympathizers in your struggle to put the Anheuser-Busch and Schlitz out of business, and to give the boys and girls of America a better opportunity.

Pasco, Wash., Nov. 11. GEO. ROGER CHUT.

OHIO'S SHAME, ETC.

The following was written last November, shortly after our Ohio election; but I have given it a place, thinking it will apply very well to the condition of things now as well as a year ago.

Shame on Ohio's election, and more shame on Tennessee, my old home, for not re-electing the governor. May God show them their mistake.

Why do you not tell some of those people who favor liquor license that it would not cost so much to pay for running the county with a less number of judges, courts, jails, poorhouses, and hundreds of other unnecessary institutions? And how may children would be happy with their mothers, glad to see the father and husband come home with his pay check *not* cashed. I have learned to believe that doing away with grafting (called business) would stop the sale of liquor or war, and make heaven on earth with all nations brothers.

Minneapolis, Minn., Nov. 24. L. E. WALLACE.

HIGH-PRESSURE GARDENING

"HIGH-PRESSURE GARDENING" WITH A MORAL.

For some years past I have been watching the movement for utilizing the vacant lots in our cities; and just now somebody has been kind enough to send me the following clipping from the San Francisco *Examiner*. May the Lord be praised for the good men and women who started this beneficent ball rolling.

CITY FARMING MAKES MONEY AND MEN.

There is a small group of men in Philadelphia who believe in the precedence of human rights over all property investiture, and for eighteen years Philadelphia, through its Vacant Lots Cultivation Association, has not only led in practical results, but has served as a source of inspiration for the founding of similar movements in France, England, and Germany.

The association prepares the idle land, which is loaned to them (subject to dispossession when the owner wants it) for cultivation by plowing, etc., then dividing it into gardens of about one-sixth of an acre. Fertilizers and sufficient rich seed to insure a successful start are furnished the gardeners, which cost the association about \$5 a garden. For these they charge \$1 for the first season, \$2 for the second season, and so on until the family pay the full cost of that which the association furnishes them. The families spread the fertilizer, plant the seeds, cultivate the growing crops, gather the produce, and, after supplying their family needs, they sell the surplus that remains.

Last summer 603 families were allotted plots covering 81½ acres. These diminutive farms on city land, which otherwise would have produced nothing but weeds and rubbish piles, and, in addition to being disfigurements, would have been breeders of disease, have provided about 3000 men, women, and children with a most healthful exercise, an instructive form of occupation, and materially aided in reducing the high cost of living.

The cost of cultivating these lands was \$7693; the food produced was valued at \$32,000—\$4 for every one invested—and all the profits went to the workers, who earned the help given them.

This back-to-the-land movement is the best form of progressiveness, and surely that man must be dead to all sense of social responsibility who will not loan his idle lands as instruments for self-support, better habits, practical education, and real happiness.

The largest profits of this non-pauperizing plan cannot be figured. It is not a charity; it is social justice—an opportunity for those in need to help themselves by their own work.

In addition to providing food and the wherewithal

for supplying other vital needs it furnishes the only opportunity for physical and moral growth under right environment.

"The greatest value our little garden brought us," said a Frenchwoman shortly after a Philadelphian had introduced the plan in France, "has not been in the fine vegetables it yielded all summer, or the good times that I and the children have had in the open air, but in the glasses of beer and absinthe my husband hasn't taken."

"Quite right, mother," said a man standing near by. "No one can ever know the evil we men don't do while we're busy in our gardens."

The total number of vacant parcels of land in the city of New York for 1914 was 193,000. The total for Brooklyn was 50,391. These parcels, often no more than an ordinary building lot, sometimes comprise several acres. It is safe to say that there are upward of 250,000 idle acres within New York's city limits. These could produce, if the same returns were made in New York as in Philadelphia, \$400 an acre, which would mean \$100,000,000, and a net profit of \$75,000,000. Thus, to use these vacant lots, which are now eyesores and nuisances, would not only be making something out of nothing, but give to thousands of families the truest relief—the opportunity to help themselves to procure a livelihood.

There is one point in the above, and, in fact, in everything I have ever gotten hold of on the subject, that seems to be overlooked. Any piece of ground, no matter where it is situated, would certainly be *worth* more if it were occupied by a neat pretty garden than by an accumulation of rubbish, foul weeds, etc. Now, cannot the owner of this vacant lot afford to pay something for having it transformed into "a thing of beauty," instead of being an eyesore to the residents and passersby? May God speed the movement.

STRAWBERRIES IN 90 DAYS AFTER SETTING OUT THE PLANTS.

On page 692 I mention red raspberries that grew and matured quite a crop within 80 days after planting; and just now in the *Ohio Farmer* I find something that pretty nearly matches it in the way of strawberries.

EVER-BEARING STRAWBERRIES.

If we had been told ten years ago that the time would shortly come when an abundance of strawberries could be gathered from plants set less than three months before, we would certainly have thought the prophecy unsound. But our eyes have seen and our ears have heard the fulfillment of such a prophecy.

At the meeting of the Portage Co. Horticultural Society, held on July 21, Mr. W. B. Nichols exhibited a box of strawberries, very uniform in size and shape, being globular and about one inch in diameter. In answer to questions he said: "The vines that bore these berries were transplanted in April of this year. They were set in good soil which was cultivated well and continuously. The runners were cut off and the blossoms picked as soon as they appeared. To do this required constant daily attention, for a runner will grow three or four inches in a day. They are of the Superb variety of the ever-bearing class. The picking of the blossoms ceased three weeks ago and the result is before you. I have demonstrated," he said, "that I can grow ripe strawberries in abundance within three months after the setting of the plants, which is in marked contrast with the June-bearing varieties, which require at least 14 months to secure good results. To get the quick returns demands fertile soil, good and continuous culture, and the prevention of the natural setting of new plants. All effort must be given to the rapid and healthy growth of the individual plant so that when the fruiting time arrives its undivided attention may be given to the production of berries."

Will it pay to give such careful attention to grow the strawberry out of its so-called natural season? It is one of the most universally liked berries that are grown, especially in the fresh state. It is quite difficult to preserve it in anything like its original form and flavor for any considerable time. That there is an active demand is evidenced by the fact that at times during the late summer and fall months the supply of fresh berries has not equaled the demand at 40 cents and more per quart.—C. H. SAPP, Portage Co., Ohio.

I confess I have always had a liking for things that grow quick. When some of the catalogs advertised different seeds that would give radishes large enough to eat in 21 days from the time the seed was sown, I thought it was quite a feat; but on very rich soil, just the right temperature, plenty of water, and good cultivation, I have succeeded in getting very fair little radishes in only 18 days. Now, with the raspberry mentioned, and also with strawberries, you must have very rich soil, well drained, a location that gives free sunshine without any shade from early in the morning till late at night, and, above all, careful attention. I think I loosened the ground around my raspberries as much as a dozen times, breaking the crust, and digging it up after every rain. But to get strawberries in 90 days we must make up our mind to give them good care.

After the above was put in type it occurred to me that down in my Florida home strawberries are planted by the acre in September and October; and my good neighbor, year after year, is picking them for market, more or less, in even less than

90 days from the time of setting out the plants; and they usually get a good price for the berries too.

BEEFS, FLOWERS, AND COLLEGE GRADUATES.

On page 646, Aug. 1, our good friend Woodberry, in speaking of my visit there something over twenty years ago, says:

"I was a bachelor then, but now have a daughter who graduates from college this spring."

Later on he wrote as follows:

I inclose a picture of our daughter Anna, taken in our garden about six weeks ago. She is standing in front of some sweet peas, and in the background is a castor-bean hedge planted less than a year ago.

I wish to congratulate you and your helpmate on your long and happy sojourn here on earth together. May you both continue to enjoy your blessings to the ripest of ripe old age.

Glendale, Cal.

G. B. WOODBERRY.

Below is the picture.



In a California garden. "Her price is far above rubies."

Now just a word to my bachelor friends, not only away off in California, but wherever they may be, anywhere in the whole wide world. These words are to remind you of the sacred and solemn responsibilities that are resting on your shoulders. Had not friend Woodberry taken my advice twenty years ago, and got a wife in that bachelor's pretty little home, this bright young lady in the picture would never have come from Heaven to earth to bless that earth, and to bless mankind at large. There will never be too many young women college graduates to help stem the tide of intemperance, crime, and wicked war that are just now devastating the whole wide world.

HEALTH NOTES

ROBBING SICK PEOPLE.

One of our workmen told me a few days ago he had something to tell me along the line of medicine. He had been taking a certain kind of medicine all winter long, or nearly so. I do not know whether the doctor advised it or whether he got it at a drugstore; but he thought he needed something, and the directions were to take it regularly for quite a spell before the good effect would be secured. Well, his testimony was like this:

"Mr. Root, I began to think the medicine was doing me harm instead of good, and I stopped right square off; and I have not only felt ever so much better ever since, but I commenced gaining in weight right along. The medicine was really doing me an injury every day I took it."

There you have it, friends. This medicine, whatever it was, was unnatural, and kind old Dame Nature was making a protest; and yet he kept on taking it. And it rejoices my heart to notice that our best physicians are gradually giving up the use of medicine. Granting the medicine *does* give relief for the time being, it fills the system with an unnatural drug, and sooner or later does more harm than good. Here is something from Dr. H. W. Wiley, which I clip from *Good Housekeeping*:

A medicine or drug that would work such cures as fresh air is capable of, we would hail with delight; but when we can put our heads out of the window and perform a miracle, it does not interest us. We would rather pay thirty-five dollars for an ozone-apparatus or oxygen-machine and crawl under the covers with it attached to our ankle, then take God's air through our lungs as a free gift.

Although he does not mention electro-poise or oxydonor in the above, he describes those things exactly. Some of you may urge that a remedy that works only on the imagination, like the above, does no harm like drugs, even if it does no good. But, my dear friends, it harms the *pocketbook*, even if it does not hurt the individual. Consider again being humbugged into paying \$35 for a mere toy that need not cost over 35 cents!

In our July 1st issue, 1914, I gave my opinion of chiropractic, and I came pretty near getting into a hornet's nest. Just now I find in our *Medina Gazette* the following:

The chiropractics got a rather stiff jolt from the lately adjourned legislature. By a new law they have been put strictly under the supervision of the State Medical Board, who are to examine and register persons desiring to practice any limited branch or branches of medicine or surgery, and shall establish rules and regulations governing such limited

practice. The fact is, this new law is calculated to put a stop to a whole lot of quackery and quacks.

Another one of our workmen informed me a few days ago that his wife had paid a chiropractic woman doctor over \$100; and he said that, so far as he could learn, she had the same trouble as when she commenced the treatment, and he very much doubted whether she was better in any way. I hardly need remind you, friends, that certain things have a "run." It seems to be a sort of craze to follow like a flock of sheep. May be it is a craze for some new medicine, some new doctor, or possibly a new kind of religion. People make up their minds beforehand that they are going to be helped, and the introducers of this new cult gather in a great lot of dollars before the people wake up to the fact that it is all imagination, and that the new thing gives no real help at all. Statistics tell us that sick and ailing people are being robbed of millions of dollars, and yet this waste of money goes on. The papers are full of it, even now.

Not long ago I told you of an advertisement for training and developing the muscles. The advertiser wanted \$25 for a course of lessons. As I did not bite right away he came down to \$15, and then \$10; and when he finally got down to \$5 I sent the money; and I also told you that I thought the physical exercise every night and morning was really of some benefit. At the same time I suggested that hoeing in the garden would do about as much good. Well, a few days ago one of my grandsons, the boy who is so much interested in astronomy, and one who is now a member of our "Scout Club," brought me a book. This book contains pictures and directions for the same thing that I paid \$5 for. I might have given \$25 had it not been for my past experience with such things. Well, in the little magazine, *Good Health*, from Battle Creek, Mich., they have the same thing from beginning to end; and, to go still further back, a good lady who taught school years ago tells me that at one time they had the same exercise for the pupils when they became tired and restless sitting still so long.

Now, then, let us who love good health, and love honesty as well, watch out and take good care that we be not swindled any more in the way I have described. Let us teach these "pickpockets" who advertise in magazines and papers that their ingenious and falsifying advertising does not "catch suckers" any longer as it did in times past.